THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—17TH YEAR. SYDNEY, SATURDAY, DECEMBER 6, 1930. No. 23.

Table of Contents

THE PROBLEM OF THE PENSIONER.[1]

By S. F. McDONALD, M.D. (Melbourne), M.R.C.P. (London),
Visiting Physician, Repatriation Hospital, Rosemount, Brisbane.

IT may be asked at the beginning, what interest to the general medical public can a paper such as this contain, when the ex-soldier is treated and handled almost exclusively in the institutions of the Repatriation Departments.

There are several answers to this question. In the first place the pensioner in one way or another is costing the country, that is, the ordinary everyday citizen, some £10,000,000 a year, £7,717,000 in pensions. Seventy-four thousand men are having medical treatment, and, judging by recent events, this number is likely to increase in the next twenty years. The reasons for this increase will be considered later.

Next, many of the pensioners, or would be pensioners, prior to, during, or after treatment by the Department come under the care of outside practitioners. These doctors, in many cases (at least so one gathers from a study of their statements) are by no means alive to the peculiar issues which arise, and make decisions in their well-meant ignorance entirely incongruous with facts.

Finally, the pensioner presents a means of following up patients over a period of years, with remarkable features often brought out, features which obtain to varying degrees in civil practice, where, however, they are completely disregarded.

[1] Read at a meeting of the Queensland Branch of the British Medical Association on May 21, 1930.

CLASSIFICATION OF DISABILITIES.

The disabilities or entitlement of any individual patient may be divided, as is done for administrative purposes, into two classes: (*a*) Due to war service, (*b*) not due to war service. In addition there are the subclasses of aggravation of a preexisting condition by war service: (*c*) Material aggravation, (*d*) non-material.

This classification is the crux of the problem to be solved, for on the decision made in this matter depends the pension and its accompanying privileges. Thus the disabilities described under (*a*) and (*c*) entitle the sufferer to a pension, (*b*) does not and (*d*) only a small one.

Usually the decision is easy. The man who lost a leg from a gunshot wound in 1918 or the chronic nephritic who had acute nephritis in France in 1916, is obviously suffering from a condition due to war service. But in the case of a man who had apparently no illness on service, was discharged with a "no disability" declaration on the completion of his time of enlistment, and develops tuberculosis or high blood pressure eight years later, is the condition due to war service or not?

To determine this requires a great deal of care, a sifting of evidence, in which the man's own statements must be critically considered, and the major reliance placed on official record. Most important is the Army Form B.103. This gives a record of all movements and events from the day of enlistment to discharge—embarkation, disembarkation, posting to units, sickness, wounds, hospital, return to unit, courts-martial, punishments, awards, promotion and reduction, in short, all that can happen to a soldier on active service. In addition, thanks to the energies of the Records Department, there are often now available actual hospital records dealing with the matter, and the whole makes up a very complete *dossier*.

Naturally, like all human documents, these are not infallible, but if the B.103 of the man who claims that he was gassed at Villers Bretonneux in May, 1918, shows him to have been at this time in Number 39 Stationary Hospital at Etaples "for total V.D. period 56 days," credence is more readily given to the written than the spoken word.

Another source of information may be the evidence of officers, fellow soldiers or medical officers who may be able to confirm or contradict a claimant's statements.

The most important difficulty ever found in the record—an uncommon one—is that of altered diagnosis. Thus a man has been known to leave his battalion with disordered action of the heart ("D.A.H.") and end in England with "gassed," while, on the other hand, a diagnosis may be amplified or corrected, for example, "diarrhœa" may become "dysentery" or "pyrexia of uncertain origin" "typhoid fever." In passing, it is remarkable how comparatively few cases of trench fever seem to have left severe disability behind them. Of course, a soldier usually preferred a disability due to actual line service, so that the less scrupulous, on discharge, when their own statements were often accepted quite cheerfully, would convert a disability of "flat-foot" to "injury from being buried by shell." (I wish to cast no reflection on those very hard worked medical men who examined soldiers on discharge. Much rushed for time, with very meagre records to help them, they did an enormous amount of work and on the whole did it very well.)

"Aggravation" is an extremely thorny problem. If Private So-and-So, aged thirty-one years (by his enlistment papers) develops rheumatism while training in an English winter, then discloses that his real age is forty-eight years and that he has had rheumatism on and off "for years," he is naturally no longer likely to be picked for line service. He may even be sent back to Australia. But when it comes to the question of granting him a pension, is his rheumatism a material or non-material aggravation?

That is a simple example.

ADMINISTRATION.

There is at present established in law an Entitlement Tribunal which is to decide the vexed question on the evidence and records whether a man's disability is or is not due to war service. It is entirely composed of laymen and, although medical witnesses are occasionally invited to attend, its inability to weigh medical evidence must be obvious to all my hearers. For this reason again I would ask my colleagues to be very cautious, when giving certificates, in expressing any opinion as to any claimant's disability being due or otherwise to war service.

Of quite different calibre is the Assessment Appeal Tribunal, the members of which are chosen from men well esteemed in their respective branches of medicine, the sole proviso being that they shall not previously have examined the applicant. Their decisions are often marked by knowledge and good judgement and are generally welcomed by officers of the department. They too, however, at times are liable to err; one pensioner was referred back to the medical officer who had last seen him, as an "early case of such and such" (a progressive disease). This evoked the caustic comment: "Then he has been an early case since I first saw him eight years ago."

THE PENSIONER AS A CLINICAL PROBLEM.

So much for the administrative machinery. Let us now turn to the pensioner as a collection of clinical problems, namely: (*a*) What is this man's disability? (*b*) Is it due to war service? (*c*) Or was it preexisting? In which case (i) did active service aggravate it in a material degree, (ii) or is it a non-material aggravation? (*d*) How much does it incapacitate him? For example, is he 70%, 50%, 30% or totally disabled? (*e*) In the latter case, is he totally and permanently disabled? (*f*) If not permanently, is his condition likely to improve, and has it improved since last review? (*g*) Is it suitable for treatment? (*h*) If so, how long will treatment be necessary? (*i*) Is it due

to some post-war condition? (*j*) Or is it due to his own fault or indiscretion, for example, venereal disease or self-inflicted wound?

These problems are enough for a start. There are other problems associated with special diseases, especially pulmonary tuberculosis — u s u a l l y described by its barbarous synonym of "T.B."— which may affect the departmental expert deeply, the outside medical man very little.

The diagnosis of disability may be a simple matter or it may be difficult. I am still in doubt over one or two people whom I have watched now for some years. Here naturally the surgical problem is easier than the medical, but it is, of course, often difficult to estimate the degree of disability due to a gunshot wound. There is a final table of assessment for actual losses of limbs or organs, for example, hand or eye, and it is important to note that this makes no concern of the pensioner's occupation. Thus loss of one hand would ruin a cathedral organist, but would not incapacitate a sheep farmer, but the law makes no difference. Further, with the percentage method of assessment the theory is that a man with, say, a moderate pulmonary fibrosis has a 25% incapacity. He will therefore get a "light job" which will require only 75% of a man's full strength, and make up the balance by his pension. There are two fallacies. The first is due to the fact that such a man is constantly liable to small periods of illness, with resulting absence from work sooner or later. Except in the case of very good employers (of whom some actually do exist) such a man loses his job to a man who is not likely to be an intermittent invalid. The other difficulty is due to the fact that a man with a 25% incapacity must, under the present system of awards and wages, receive full wages, and again the pensioner is apt to find himself out of a job.

Thus, in addition to the medical problem of the pensioner, we very soon encounter an economic problem which reacts with the medical, presently giving rise to a vicious circle of a very difficult kind.

Diseases of Pensioners.

Turning now to the actual medical conditions encountered among pensioners, they may be classified as follows: (*a*) Circulatory, (*b*) respiratory, (*c*) abdominal, (*d*) renal, (*e*) nervous (organic diseases only), (*f*) debility.

There are some few comparatively unimportant exceptions, for example, skin diseases, which I shall not discuss. I shall, I expect, at once be asked why I am not including the functional nervous conditions. Because these do not form a class apart, but an essential element in almost all the others, and of the two factors in the pensioner's make-up the functional is the far more crippling. To this I shall return later, but instance after instance comes to my mind of men gravely ill with organic disease of the most varying nature who, in the absence of functional nervous disturbance, worked, often until their last illness, at occupations of all kinds. On the other hand, there are men with disabilities less severe in nature but with a superadded functional element who are helpless and to all practical considerations hopelessly incapacitated.

The reason for the persistence of functional disability is difficult to discover at first. There is a number of factors at work. First, the average pensioner returned to Australia after either a period of convalescence as an invalid or a period of loafing as an armistice sightseer. He came back to a changed world, with no ever-present authority ready to support him and the prospect of routine and unromantic work. To this there was also usually added, however little affected he seemed, a varying element of war strain, which in its turn readily linked up with the more or less deeply buried neurosis we all carry concealed within us. He got work and one or two things happened: (i) He held it successfully, as has happened with the great majority; (ii) he held it, but his nervous condition came more and more into view, possibly to the production of a "nervous breakdown" necessitating periods of absence from work. Such men might, under favourable conditions, pull themselves together and work out their own salvation. They were more likely (iii) to join the man who became unemployed.

To all these groups, but especially to the last, was added another factor, the economic. I need hardly remind my hearers how great a part financial worries will play in all illness, or how they will even induce symptoms of their own. Sometimes, though less often than might be expected, alcohol became a refuge from troubles and hastened the physical and mental descent.

The type of neurosis present in these men is of the class long ago described as "anxiety hysteria." The outstanding symptoms are fear and worry. They are afraid of all kinds of things, from heart disease to syphilis (though this last is rare); fear of madness is very common and, thanks to the Cancer Campaign, fear of cancer is beginning to appear. It is this fear which leads them to exaggerate their symptoms, just as the terrified child will magnify the puppy into a blood hound and the herd of quiet milkers into mad bulls. But unfortunately a much more sinister factor now appears on the scene—the pension. It is safe to say that less than one *per centum* of those who come to the Repatriation Department come with no designs for increasing their pension. (There is one patient who insists on his being reduced, but he, poor fellow, is mad.) In great part this is unconscious, in part conscious. The pension to them represents a great deal. In the first place it means actual money and all that money means to a man out of work. Next it is a balm to his self-respect. A man who is drawing a full pension feels quite justified in not working, for does not the doctor at "Repat" hold him as 100% disabled? Therefore, he is wont to exaggerate symptoms, usually quite honestly and sin-

cerely, but the symptoms are seldom those of organic disease. Cardiac pain, for instance, in organic heart disease is seldom in the "poetic" cardiac area; I mean the area to which the hero applies his hand in moments of stress, or the villain grabs in agony when he dies of heart disease in the final chapter, all his plans having come to nought. Practically all pensioners get "cardiac" pains when exhausted.

Rarely one gets the real "skrimshanker" or malingerer. Such men are not common and are usually more easily dealt with than the unconscious exaggerator. Finally, a word must be said about the manufactured neurosis. We are all liable to make mistakes, even the youngest of us, and at times men have been given a serious label and have joyfully appropriated it with disastrous results to their own lives and the happiness of those about them.

The Cardio-Respiratory Syndrome.

The most common syndrome found in pensioners is the cardio-respiratory. This may be: (i) A pure neurosis; (ii) an association of genuine cardiac disease, for example, mitral stenosis or auricular fibrillation, but it is not an essential accompaniment of any organic condition; (iii) a very early and important sign of early pulmonary tuberculosis; (iv) an accompaniment, usually, I think, directly caused by pulmonary fibrosis of whatever origin. Heart and lungs are, after all, really only two linked organs forming the greatest part of one system, and any disturbance in one is of necessity transmitted to the other.

The symptoms of this condition, which is known under various titles, such as effort syndrome, "D.A.H.," cardiac neurosis or irritable heart, are as follows: (i) Breathlessness; (ii) rapid heart action; (iii) attacks of distress in the chest, especially in the precordial area; (iv) signs of vasomotor instability, for example, dizziness on stooping and dermatographism. But any interference with the cardio-respiratory mechanism at once awakens what is a very ancient and deep-seated instinctive fear, the fear of suffocation. From the fear thus set free proceed palpitation, tremor, sweating, night terrors, sleeplessness, indigestion, exaggerated deep reflexes and morning depression. I have said that these nervous signs are not an invaluable accompaniment of organic heart disease. During the past two years there have been some ten cases of organic heart disease at Rosemount. They may be catalogued as follows:

A. Without Functional Disturbance.

1. J.L. had mitral stenosis, auricular fibrillation and attacks of heart block; he was working as a clerk and messenger until the attacks became too frequent. He is always cheerful and pleasant.

2. A.B. had mitral stenosis and auricular fibrillation. He had an orange orchard on a hillside, and died last year of pneumonia. He worked till a few weeks before his death.

3. J.P. has mitral stenosis and auricular fibrillation. He is working as a clerk in the railways and a very cheerful worker.

4. A.C. has mitral and aortic disease, rheumatic and syphilitic. He drives a stationary engine and is always at work and happy.

5. C.L. has endocarditis, aortic and mitral. He is probably very ill, but worked till he could no longer do so.

6. A.C.B. had acute pericarditis two years ago. He has a permanently enlarged heart and poor tolerance. He is a stock and station agent.

7. A.B. has aortic endocarditis and aortitis. He is a very sick man, but is still working as a bank messenger. He has a slight neurosis.

8. E.F. has aortic and mitral endocarditis. His feet are crippled by rheumatism, but he is always cheerful. He makes a living by breeding finches and canaries.

B. Organic Heart Disease plus Functional Disturbance.

9. A.L. has mild mitral stenosis and auricular fibrillation well controlled by digitalis. He has a very severe anxiety state. He suffers from tremor, sleeplessness, sweating, exhaustion on slight emotion and so on, but no orthopnœa.

10. A.C. has mitral stenosis and auricular fibrillation, controlled by digitalis. He has a very severe anxiety state and is quite unable to work at anything.

Numbers 1, 9 and 10 have all had the diagnosis confirmed by electrocardiograms. So much for actual heart lesions in these cases. There are others who have no heart disease, yet whose general condition is quite as pitiable. Here the diagnosis is exceedingly difficult. It may be objected that I have not mentioned focal sepsis in these cases. I have not because I am still unable to allot *propter* and *post* so far as septic foci are concerned.

Diseases of the Lungs.

When lungs are dealt with, the matter becomes even more difficult and complex.

Roughly, the causes of lung changes in the pensioner are: (i) Irritating gases, (ii) acute infections, especially influenza, (iii) pulmonary tuberculosis.

Effects of Gas.

It is often difficult to decide whether a man was gassed or not; his own statements are often worthless, and in some cases, for example, of a man who in spite of gassing stuck to his job, the records may be very misleading. It is, however, very unlikely that if a man never got nearer the front line than Amiens, he was ever gassed to an appreciable degree (but they say they were, and are often believed). Then the nature of the gas must be considered. Mustard gas tended to produce superficial damage on the upper respiratory tract; lung affections were rare and usually rapidly fatal. Phosgene, on the other hand, was more generally inhaled, and lung changes in the shape of varying degrees of bronchitis and bronchopneumonia followed. Sometimes the patient recovered, sometimes he did not. If he did, there was usually left a permanent damage of varying degree, often very difficult to diagnose.

Such a man I know who is working on a farm in the country. He has a good home, a good farm, a devoted and capable wife and enough capital to enable him to employ a little labour when necessary.

Above all, his mentality is above the average. His own account of himself is that he is "three-quarters of a man."

Naturally the far more common example of the man without these advantages has a different fate. Badly fed, badly housed in crowded and airless "residentials," usually out of work, depressed and discouraged, he is an easy prey to any infection, simple or tuberculous. Such patients furnish the hundreds of "chest investigation cases" examined every year at Rosemount.

I had hoped to give you an account of a severe case of pure mustard gas poisoning, but the patient has disappeared and I have not been able to trace him. He was a medical officer badly gassed at Villers Bretonneux whom I saw in the Duchess of Westminster's Hospital. Will he please communicate?

Acute Infection.

Next come the cases of acute infection. Of these influenza stands out as the commonest cause of permanent lung damage. In addition there were many cases of more or less acute bronchitis which stayed with men all the winter. "You can always," it was said, "tell the Australians in the dark—there's always a man coughing."

The effects of these infections were to set up (i) an increased susceptibility to further infection and (ii) changes in the lung, either in the direction of a diffuse or patchy fibrosis extending through the lungs, usually basal, but often apical (the latter condition has given rise to much difficulty in diagnosis), and a destruction of the essential lung epithelium.

Sometimes (though less commonly than has been stated, in our opinion) the condition has proceeded to a frank bronchiectasis. More usually there is simply scarring and increase of fibrous tissue. *Post mortem* examination will often reveal surprisingly few changes, though physical signs may have been quite extensive. The X ray interpretation requires great skill and experience, and "Dunham's fans" were probably responsible for much of the earlier confusion.

Tuberculosis and Fibrosis.

It is possible to find physical signs, especially at the right apex, indistinguishable from the classical signs of tuberculosis, even with a moderate evening rise of temperature, and yet in the absence of tubercle bacilli the diagnosis is constantly in doubt. For as Fishberg has pointed out, there may be found a simple catarrh at the apices, especially the right, which is not tuberculous. It is found in the so-called "trap" area and is very deceptive to the inexperienced.

Of simple fibrosis, the generalized type following gassing (though it may occur after any simple infection as well), the chief features are: (i) The wasting; (ii) the poor chest expansion—less than five centimetres (two inches); (iii) the dropped heart; (iv) usually alteration of the percussion note (often there is frank dulness), especially on the right side; (v) generally poorly heard breath sounds (there may be an alteration in pitch and length of expiration), but this is variable and there may be even frank tubular breathing; (vi) perhaps a slight irregular evening rise of temperature; (vii) the absence of adventitious sounds generally, though there may be a few post-tussive crepitations at the apices of the upper or lower lobes.

Occasionally there are crepitations at the bases, but these are against a diagnosis of tuberculosis, and suggest a chronic simple infection or bronchiectasis. Frank bronchiectasis is uncommon.

The use of "Lipiodol" in such instances is not easy. Thanks to the nervous element present, these patients usually stand manipulation very badly. Sickness or frank fainting may result from comparatively simple procedures, for example, radiography or laryngeal examination. I have observed fainting as a result of both intratracheal or transglottic methods of injecting the oil.

The sputum is scanty and tenacious and is generally brought up in small masses when the patient gets up in the morning. Tubercle bacilli are absent.

These are the men in whom the anxiety state is most common. Dyspnœa on exertion, precordial pain, headache, dizziness, especially when stooping or looking upwards, restless nights with terrifying dreams, palpitation, sweating and tremor may be present. Orthopnœa is very uncommon; a patient suffering from organic heart disease causing so pronounced a dyspnœa on exertion as they exhibit, would need at least three pillows. These men can lie quite flat. In exercise tolerance tests dyspnœa often persists long after tachycardia.

This distress is usually increased by cold and wet, but above all by heat and wet. Under these circumstances they are usually very depressed and miserable. Usually they can get no suitable work.

Often the diagnosis of pulmonary tuberculosis is made and the differentiation is very difficult, even to the most capable physicians. Often they come to Rosemount with certificates stating that they are suffering from "T.B.," the result of "gassing." It is, however, becoming increasingly apparent that, even if they are not tuberculous, they are very gravely affected by the condition and are often as hopelessly incapacitated as the man with pulmonary tuberculosis. Moreover, the condition tends to progress in spite of treatment, and with increasing dyspnœa and thoracic discomfort they become able to do only the lightest work, and that intermittently. The French have applied to them the term "pseudo-tuberculosis" which is an unfortunate name and leads to confusion with pulmonary tuberculosis.

Dr. James, formerly of McLeod Sanitorium, who has had an extensive experience of these men, holds that they tend to improve. From what I have seen I believe that they may do so, under suitable conditions. They benefit less from sanatorium con-

ditions in proportion than do the frankly tuberculous, and are much more affected by cold and wind.

A few become asthmatic; their condition is pitiable. The only hope for them is quiet light work, not necessarily in the open air, a good home, freedom from worries and, above all, a hypodermic syringe and a supply of adrenalin.

Abdominal Diseases.

It is in dealing with men suffering from abdominal affections that the most difficult problems are encountered. Diagnosis of abdominal disease in the ordinary individual is difficult enough. In spite of careful histories, thorough examinations, radiographic and chemical studies, mistakes are constantly made. Above all, the differentiation between the organic and functional is very difficult; nor is it made easier by the knowledge that to treat a functional condition as organic is almost as grave a disaster as to treat an organic condition as functional.

We have all seen those ghastly wrecks of humanity to whose condition Robert Hutchison has given the name "chronic abdomen," and we know the process of manufacture is made up of operations. The same process applies to the ex-soldier, and the well developed abdominal neurosis is too often the result of the all-too-well intentioned surgery of successive hospitals. Here, as everywhere in pension work, the physician (or surgeon) is able to temper the bitter evidence of his own errors by the satisfaction with which he can study those of others.

So strong is the danger of exacerbating an already present neurosis that few surgeons will operate on the pensioner even under the most favourable circumstances. I think our sins are therefore more often those of omission than commission. In these patients, too, the functional factors will completely mask the physical side.

I can remember one man who had pain, epigastric or umbilical, hypogastric or spinal, boring, burning, niggling or gripping, pain before meals, pain after meals and pain between meals, who slept well and whose bulk showed no diminution, as examination of his abdomen disclosed no true tenderness, while X ray examination revealed only a few adhesions between the gall bladder and duodenum, all the signs of neurotic temperament, and who made a great improvement when he came to me as a private patient instead of to Rosemount. (But he got the same treatment!) Finally, one day he achieved a severe colic and a temperature of 39·4° C. (103° F.), ushered in by a sharp rigor. Three days later his gall bladder was opened and three stones removed. He has been well ever since.

Another man had a gastric ulcer which had produced very real blocking of the pylorus, so that he was starving. Gastro-enterostomy was done and his gastric symptoms disappeared, but he had a severe spasmodic pain in the left iliac fossa where the contracted colon could be rolled rope-like under the finger. Medical treatment of various sorts was tried, but without effect, until one morning he received the whole verbal weight of his medical adviser's displeasure, and he is now without pain, gaining weight and very cheerful and convinced that his aches, pains, dyspnœa and palpitation are nervous in origin.

The alleged cause of the abdominal condition may be anything from gas to bad water, or dysentery. Here is another dilemma. Much diarrhœa on service was really mild dysentery and much mild dysentery was simple severe diarrhœa. Even the Imperial pension authorities admit duodenal ulcer as a sequel of dysentery, and in this country almost any kind of abdominal disease may be attributed to active service.

It only too often happens that the man with a genuine organic disturbance, in his desire to be impressive, weaves so many fantasies about it that the result is suspicion of all he says. It must be remembered, too, that the alimentary canal is a most responsive weather-cock to our emotions. Whether it be the psychical gastric flow in Pavlov's dogs or the uneasy lower bowel on the examination morning, every medical student realizes how closely linked is our alimentary canal to our emotional centres. It is only after we go out into practice that we reverse the process and remove quite innocent appendices, or hook up or remove fallen bowel in the hope of clearing up a melancholia or an obsessional state. It is recorded that a man was called up for active service and his alimentary canal on X ray examination was observed to hang down in a state of profound visceroptosis. He was rejected for service, again examined in his resulting cheerful frame of mind, and his bowels were now "normal" (Bedingfield).

All grades of abdominal hysteria are met with in the pensioner, from the almost blatant anal-eroticism of the sufferer from mucous colitis to the cardiospasm induced by genuine shell-shock.

Of a general nature may be considered the after-effects of malaria. In the first place those who have most experience of malaria insist that malaria existing five, six or seven years after the patient has left a malarious country, is a very rare condition. They state that after malaria, especially after repeated attacks, any febrile condition, cold, bronchitis, influenza, will assume the semblance of an ague attack with hot stage, cold stage, rigor, vomiting, all complete. The only acceptable criterion of malaria is the demonstration of the parasite. But, it is objected, even though the disease may not be malaria these men suffer from a weakness and are incapable of working. They tire more easily than do ordinary men, and they are subject to backache, pains in the limbs, headache, palpitation and shortness of breath, in fact all the manifestations of the anxiety neurosis. I am assured by Dr. Cilento and Dr. Hosking, of Rabaul, that this condition is well known as a sequel of malaria, and its prevention is entirely a matter of the mental handling of the patient.

Debility.

Finally, a word on "debility." This covers a multitude of conditions which may be the early stages of all sorts of diseases, from cerebral syphilis to chronic nephritis, but from the conditions which gradually come to receive labels a residue is left which still remains "debility." A typical history is that of A.N., aged now forty-five, who was a labourer before the war. He saw service in Gallipoli and France, and in 1917 had a mild illness which never received a better diagnosis than "P.U.O." He has "never been any good since." He has lost weight, he tires on slight exertion, he has no appetite, especially for breakfast, sometimes he sleeps well, sometimes badly, and is wearied and may be genuinely exhausted by half a day of moderate work. Examination reveals nothing except wasting, hypotonia, obvious visceroptosis, which includes heart and lungs as well as viscera, perhaps a little pulmonary fibrosis, a low blood pressure, moderately active deep reflexes, but no signs of organic nervous disease.

Such patients are the trial alike of doctor and clerk. To the former they present a problem of the "what am I missing?" order, to the latter a feeling that if the doctor can find nothing wrong, the claimant cannot be seriously ill and therefore ought to be working. To them both the claimant returns a monotonous statement: "Before I went to the war I was able to do such and such work (usually quite genuinely heavy work), now I've tried and I can't; if it hadn't been for the war I could. I consider I'm entitled to a pension or treatment to make me fit again." Such a man struggles through the latter part of his life gradually breaking down more and more, badly housed, badly fed, a prey to a multitude of minor ills, and belonging to a class which calls loudly for the establishment of an old soldiers' home, of which each individual would probably soon tire. Each winter they drift back into the Repatriation hospitals with asthma, bronchitis, rheumatism or indigestion. Few would recognize in these shrunken and bowed wrecks the debonair warriors of Gallipoli and Flanders, or the dashing gallants of Victoria Street and the Strand.

Closely bound up with the question of debility comes the other question of the "war-worn" ex-soldier. It is claimed that many ex-soldiers, mainly by virtue of their war experience, are so weakened physically that they fall an earlier prey to various diseases which otherwise they would have been able to resist. Hence it is further claimed that "all post-war illnesses should be a charge on the State and all ex-soldiers contracting any disease whatsoever (presumably venereal diseases are included) should be entitled to free treatment and maintenance during treatment. This, I may point out, is an important feature of the League programme; at its instance this Branch has been requested to ask the Federal Committee to give a decision on the matter. Certainly it is not likely to come into operation during the present financial stringency, but the soldiers' votes and soldiers' dependants' votes are of great importance at election times. It was exactly on such a basis that the American Civil War pensions reached their enormous totals.

Treatment.

There remains the final problem, not of this class alone, but of the pensioner as a whole, what is possible in the way of treatment? And the answer is "very little."

On the men suffering from purely nervous conditions my friend, Dr. J. P. Lowson, labours diligently five days a week. Some of his results are good beyond any words; many are simple failures. The two determining factors are, of course, the man's personality and his desire to cooperate. The first, of course, varies from man to man. Some will have the brains to appreciate what is being done, others will not. The desire to cooperate is governed equally by financial and other more involved factors. If a man is willing to risk his pension by getting well, then his nervous disturbance is half conquered; when, as with so many pensioners, he is quite ready to stay ill (unconsciously or consciously), then this resistance will be added to his already present disabilities.

It is indeed when we come to treatment that we encounter the worst of all our problems. It has already been laid down that to the pensioner nothing is so important as his pension; it is an anchor of certainty in a very great sea of uncertainty and it is also a badge of self-respect. It is only a very exceptional man who, nowadays at least, will see his pension diminished without taking most active steps to save it. Hence improvement must almost invariably be objective before we can claim it. It is very seldom that subjective improvement is admitted. It is true that the genuine malingerer is rare, but the sufferer from "oscillatory plumbism" (a sea term, by the way, adopted by the Junior Service) is common.

We get admissions that pains and aches are less, that joints are less swollen and hearts less tumultuous, so long as there is no word of reduction of pension; at any hint of this there is no further improvement, in spite of all our most cunning treatment.

The same thing holds with regard to work. Work is the most important part of treatment, but for a pensioner to work is an admission that his incapacity is not as great as it had been judged in the past. Many civilian tuberculous patients are doing a great deal of work. My friend, Dr. Steel, when he recommends the reduction of a man's pension from £4 to £2 10s. a week, with the statement that such a one is fit for light work, is bluntly told that no tuberculous patient is ever fit for work.

Another point in dealing with the nervous factor is the important principle laid down by Freud many years ago, that treatment of a functional condition is likely to be a failure unless the patient

pays for it. Bitter experience has taught many of us the truth of this saying. But the pensioner does not pay for treatment; too often he gets an extra allowance when under treatment. Some treatment, for example, massage, radiant heat and electrical treatment, may well be continued for weeks in the pious hope that something will come of it. Too often, unfortunately, the only thing that comes of it is a reduction of the national funds and an added conviction in the pensioner's mind that he requires long and elaborate treatment before he can resume work.

The present pension system in many instances is a direct deterrent to any man returning to work; generally it merely serves to prolong their invalidism or their belief in their invalidism.

It is a matter of course that the personality of the doctor in these conditions is all important. A doctor to whom these men can pour out their troubles is a very great help to most of them, and not a few look on their visit to him as a social event as much as a medical one. Otherwise our treatment is mainly symptomatic and palliative. We cannot give a man a new lung. Kidneys, once they have gone beyond a certain stage, nothing can recall to normal efficiency, and the completely disorganized digestive system will respond but little.

Again I must speak of focal sepsis, and I fear I shall meet with much criticism, but I do not think that any of us at Rosemount expect much more from the treatment of focal sepsis than an alleviation of symptoms. Indeed, I believe that many neurotics are made much worse by treatment of focal sepsis. This applies not merely to pensioners but to civil patients as well.

The chief factor in recovery is a return to work. Let our patients find work which they believe is within their powers, which they enjoy doing and which they can retain, and other treatment is of little importance. Looking back, I can recall one instance after another of men, apparently gravely ill, to whom success at work acted as a tonic more effective than anything in a bottle and who have only returned for other treatment when work has gone wrong.

While we are economically disordered I do not think that an increase of employment is probable. Hence more men, many of them ex-soldiers, will be thrown out of jobs, and to keep themselves and their families going will apply for pension rights, and in many cases will obtain them, thus further increasing the departmental load.

SUMMARY.

In conclusion I may sum up by saying:

1. That in the pensioner the moral is to the physical as three to one.

2. A man who has an organic lesion and no neurosis is far better off than a man with a slight organic lesion and neurosis.

3. The statement of an ex-soldier, especially regarding gas, dysentery, shell-shock and other debatable points, is to be accepted with caution.

4. The cardiac-respiratory group is the largest and most important, with its two divisions into "D.A.H." and pure pulmonary lesions.

5. Gastro-intestinal manifestations are common, and it often is only possible to differentiate by operation.

6. Malaria is very rare nowadays.

7. Treatment is difficult and is much complicated by the mental factor.

ACKNOWLEDGEMENTS.

I wish to express my indebtedness to Sir Thomas Lewis, who in his little book on the "Effort Syndrome" has done so much to classify this debatable subject; to Dr. M. D. Silberberg, of Melbourne, whose lecture recently delivered in New Zealand, on the "Psycho-Toxic Heart," is one of the very few post-war contributions of any real value; to Dr. Robert Hutchison, for his lecture entitled "The Chronic Abdomen" in "Lectures on Dyspnœa"; to Dr. H. Bedingfield, for his paper entitled "Visceroptosis and Allied Abdominal Conditions associated with Chronic Invalidism," which appeared in the *Quarterly Journal of Medicine*, Numbers 88 and 89.

PSYCHOLOGY IN RELATION TO MODERN MEDICAL PRACTICE.[1]

By R. COUPLAND WINN, M.C., M.B., Ch.M.,
Honorary Assistant Physician, Sydney Hospital.

THE word psychology possesses a constant place in newspaper columns like that blessed word Mesopotamia once did, but is seldom found in text books of medicine. The extreme attitude which consists of regarding psychology almost as a form of magic, is just as foolish as to regard its study as a useless intellectual exercise. There is a third attitude possible, one that is moderate in tone.

One may consider psychology as the study of behaviour. This term is meant by the writer to indicate human and animal adjustment to environment, exclusive of such purely somatic reflexes as the "standing reflex" and inclusive of mental processes. Professor Lovell defines psychology as the study of mind (psyche).

Many psychologists in the past followed James's definition of psychology, namely, that it was the study of consciousness. The restriction of the field of study to consciousness led to psychology making a relatively small contribution to medical science. Psychology was practised before it became a science. For instance, it is a fact that physicians of all ages succeeded in their art by reason of the psychological insight which they possessed; one might say that they possessed intuitive psychological knowledge. They were like the man who talked prose all his life without knowing it.

[1] Read at a meeting of the Medical Science Club, Sydney, on September 8, 1930.

It is only comparatively recently that psychology has made contributions to practical knowledge that the medical practitioner cannot afford to ignore, and in the future it will be considered just as essential for medical practitioners to possess a sound knowledge of psychology as of physiology.

Psychology is no longer a mere satellite of philosophy. It is part of biology and a basic part, too. It is beginning to rival anatomy and physiology in this regard. Biology teaches us that man is an animal, despite his more than animal intelligence. It follows that the study of animal intelligence helps in the understanding of human intelligence. Instinct is a convenient name for the less discriminative adjustments of animals (human and subhuman) to their environment. It has been the study of instinct that has been largely responsible for the impetus to psychology that has brought this science into the world of practical affairs. Psychology then deals with instinct, but it also deals as well with a more discriminative adjustment. Introspection is still a valuable method in psychological study, but the objective study of the more discriminative adjustments and of instinct has been introduced also.

In humans there is predominance of the more discriminative adjustments; in other animals instinct predominates. It will be seen by those who study psychology, that the greater the factor of discrimination in the adjustment to environment, the less will be the instinctive factor. Instinct is the name given to the adjustments between the animal and its environment which have gone on for countless ages. It is therefore the dynamic factor in human intelligence, too, though it has been overlaid by the more discriminative method of adjustment. It is because instinctive adjustments are overlaid by more discriminative adjustments in adults that the presence of instinctive adjustments has been under-emphasized in children. The development of discriminative methods of adjustment by children, as they grow from birth to adult years, is brought about by a gradually increasing modification of the instinctive reactions with which the child is endowed. The instinctive urge is not lost; it is modified.

Instinctive adjustments are, we believe, not vividly conscious, that is, they are relatively unconscious, when compared with discriminative adjustments. That is perhaps one of the reasons why so many of the occurrences of childhood are forgotten. Even in adult years quite a number of reactions closely associated with instinct are relatively unconscious. An example of this is to be found in the use of the expression "love is blind." We all know that a maiden's behaviour when under the urge of the sex instinct may be better understood by onlookers than by herself. She may remain unaware of the purpose of actions which onlookers see are likely to bring her into the vicinity of some favoured swain. True, such an action is very like the actions of psychoneurotics, which we will later describe, but no doubt the maiden's action could be definitely described as normal for a naïve type of individual.

Reactions that are largely instinctive in origin, may achieve ends of which the individual is not fully conscious, that is, go on largely below the level of full "consciousness." Instinctive adjustments are like reflexes in that the tendency to make them is inherited.

Pavlov was one of the first to study variation of instinctive behaviour experimentally. He called these variations conditioned reflexes.

Conditioned Reflex.

By way of reminder, let me state that Pavlov, when studying salivary secretion in dogs, noticed that the mere sight of food was capable of producing a copious flow of saliva. He noticed, if the dog was fed repeatedly under the same conditions, that one or several of the features of the environment, such as the sight of the dish in which the food was usually placed, or the approach of the attendant who usually supplied the food, would also acquire the power of acting as a stimulus to salivary secretion. This was due to "association." This reaction to conditions he called a conditioned reflex and he gave the name unconditioned reflex to the salivation produced by allowing the dog to eat. This direct response to food was in reality a reaction of the nutritional instinct and should be called, when interpreting Pavlov's work psychologically, a direct, or unconditioned, instinctive response. The indirect instinctive response should be labelled, not a conditioned reflex, but a conditioned response.

In accordance with the viewpoint for which Hughlings Jackson was largely responsible and which was elaborated by Rivers and Wood Jones, among others, there are three main levels of human reaction to stimulation. The lowest level consists of the somatic reflexes, properly so-called. The middle level consists of the instinctive responses, the conducting paths for which are subcortical and not in the medulla or spinal cord. (The consensus of opinion is that these paths pass through the thalamus and perhaps other basal ganglia.) The highest level consists of the thought processes which are believed to originate largely in the cerebral cortex.

Instinct is a convenient name for the type of reaction which is not merely somatic reflex and which is not so discriminating as intellectual reactions. One could consider the adjustments of an animal (subhuman or human) as a series, with reflexes at one end and intellectual reactions at the other. Instinct could then be thought of as elaborate reflex response or a sort of faintly conscious reaction.

Pavlov not only studied the nutritional instinct, but also the instinct of self-preservation. These are two of what Freud calls the ego-instincts. In continuing his experiments on dogs, Pavlov found that a stimulus which had no previous association with

the nutritional instinct such as the ringing of a bell, could, if repeatedly associated with the giving of food, itself acquire the power of initiating salivary secretion. He found that there was almost no end to the variety of stimuli that could be conditioned by association with the nutritional instinct. For instance, if food were given to an animal every hour for a sufficient number of times, the passing of half an hour of time would itself take on the power of initiating secretion. Even a noxious stimulus, if not too noxious, could be made to produce a response of the nutritional instinct. If an electric shock was slowly increased in strength, a strong shock could be "conditioned," but a strong shock in the beginning, or one too rapidly increased, would inhibit secretion. The reason for this was that the action of the nutritional instinct was swamped by the instinct of self-preservation. This reminds one of the inhibiting effect on human beings of irritants like noisy machinery or shell fire.

Another important discovery by Pavlov was that dogs could develop a conditioned response to a stimulus that had already been conditioned and even a third response could be developed to the second one sometimes. This provides insight into the understanding of fetishism *et cetera*. By introducing a noxious stimulus, such as an acid fluid, into the dog's mouth Pavlov was able to stimulate the instinct of self-preservation directly. The acid produced a watery saliva instead of a viscid one and movements of rejection *et cetera*. By associating ringing of a bell or other stimuli with repeated stimulation of the instinct of self-preservation, conditioned responses to this instinct were also developed. It will not be out of place to consider the pathways of these instinctive and conditioned responses.

The word "neurogram" was introduced to indicate a pathway for a stimulus along a series of neurones. When the light first strikes a baby's eyes the pathway along the neurones of the optic nerve to the cerebral cortex is called a neurogram. Once such a pathway has been traversed, it is ever afterwards rendered easier of being followed. The behaviourists call this facilitation. Semon considers that memory depends on such neural traces. One may think of facilitation as possibly depending on lessened resistance to passage of the stimulus across the synaptic junctions. Instinct probably depends on neurograms which, being preformed, facilitate passage of the appropriate stimulus. In other words, instinct depends on inherited neurograms.

Just as in the somatic reflex there are three parts of the arc, sensory, association and motor, which are sometimes called receptor, conductor and effector, so with instinct. McDougall considers that the instinctive arc may be divided into three parts. He calls the middle or conductor part of the instinctive pathway "emotion." He also correlates emotion with the term affection which is the name given to the middle part of the traditional psychological triad—cognition, affection and conation. This triad might be called the "intellectual arc."

	INTELLECTUAL ARC	
Cognition	Affection	Conation
	INSTINCTIVE ARC	
Receptor Part	Emotion	Effector Part
	REFLEX ARC	
Sensory Part	Association	Motor Part

The receptor part of instinct corresponds to the sensory part of the reflex arc and the cognitive part of the intellectual arc, while the effector part of instinct corresponds to the motor part of the reflex arc and the conative part of the intellectual arc.

We are now in a position to realize that conditioned responses mean the development of new channels at the receptor end of the instinctive arc through association with the normal instinctive stimulus.

Another discovery of Pavlov was that if the already conditioned stimulus be repeated frequently without the associated exhibition of food, especially before the conditioned response is well formed, it gradually loses the power to bring about salivation. The reflex has undergone "extinction," as Pavlov calls it. He regards extinction as a variety of inhibition. After months or years, unless the conditioned response is reformed by stimulation and food together, it will disappear (passive forgetting).

By giving food when one stimulus is used and withholding it when another is used, the second stimulus may be conditioned to inhibit secretion. Such a negative conditioned response would readily develop in a child who, whenever his instinctive curiosity made him take up or handle some object, was prevented by the much over-used nursery word "don't."

I have described Pavlov's work at some length because his findings help us to understand psychoneuroses.

Experimental Psychoneurosis.

Pavlov described emotional reactions which sometimes occurred in his dogs, particularly under certain conditions and particularly in certain dogs. He called this experimental neurasthenia. Pavlov is careful to explain that he uses the pre-Freudian terminology. He should have used the term "experimental psychoneurosis." Owing to his lack of knowledge of modern classification Pavlov uses wrong terminology in describing these manifestations in his dogs.

Despite any criticisms that may be directed against his interpretations of experimental psychoneurosis, Pavlov's work has been of tremendous value and points the way to further extremely important work in experimental psychology. If he or his successors were to experiment on pups with a view to studying the genesis of experimental psychoneurosis, they would have material free of any previously developed conditioned responses which were unknown to the experimenters. Some work has apparently been done on pups, but not with a view to the study of experimental psychoneurosis. Work on conditioned responses in babies has been done, but mainly to test powers of discrimination of serial stimuli.

Sentiments.

Another reason why conditioning has been described at some length is because conditioned responses are an intermediate step between instincts and sentiments. The word sentiment is not used here in the popular sense. Like the word nasal, sentimental does not mean exactly what it appears to. In popular language, nasal speech is speech that is produced without proper use of the nasal sinuses, and a sentimental speech is one that is too sentimental.

Sentiments in the psychological sense can be thought of as elaborated conditioned responses produced largely by verbal stimuli and clothed in thought, so to speak. McDougall states that they are a compound of instincts with associated ideas. They could be called ideal conditioned responses, using the word ideal to mean constituted of ideas. Consider the sentiment of patriotism and the conditioning effect of the ideas expressed in national anthems.

The use of verbal stimuli for conditioning makes it possible to multiply stimuli by substituting the idea of the stimulus for the stimulus itself. Here we have the basis of symbolism.

The complexes (that are so often mentioned in modern novels) McDougall defines as unsatisfactory varieties of sentiment. Complexes have been produced by unsatisfactory conditions in the environment, usually in childhood, and so there is an unsatisfactory development of the personality.

Normal conditioned responses, and therefore normal sentiments, arise from satisfactory conditioned stimuli. Unsatisfactory conditions, especially in the form of fear responses, will not only produce complexes, but will have an inhibiting effect on the instincts themselves and on conditioned responses and sentiments already formed. This inhibiting effect on the instincts is what Pavlov found in the experimental psychoneuroses which he mentioned. One dog developed a tremor of the leg and then of the whole body, exclusive of the head and neck, following inhibition. This tremor he regarded as hysterical.

Integration of the Personality.

Dr. A. H. Martin rightly stresses the conception that personality is an integration of basic instincts and superimposed sentiments *et cetera*.

In simple and comparatively uneducated people the integration is apt to be incomplete or, in other words, such people are relatively dissociated. Development from childhood depends on the gradual integration of the instincts, conditioned responses and sentiments *et cetera* into a consistent personality.

This process is complete in proportion to the discrimination of the individual and the normality of his conditioned responses and sentiments. Probably no one is completely integrated. Everyone tends to entertain certain beliefs which are inconsistent with other trends of his personality. Beliefs may be thought of perhaps as more organized and elaborated sentiments. Such incomplete integration is shown in the Christian scientist who calls for the medical practitioner when he is seriously ill and at all times follows laws of sanitation.

People may be divided into three serial classes on the score of their attitude to their environment. These are extroverts, introverts and ambiverts.

Extroversion.

An extrovert is a person who has a predominatingly outward trend to his interests. His interests are directed towards other people and external affairs. He is not introspective, but extrospective. His personality is not well integrated because he has developed conditioned responses and sentiments without much use of the criticism that a discriminative self-regarding sentiment can give. He tends to accept blindly the current sentiments of his class and lacks insight into his own sentiments and beliefs. He has reacted away from introspection of his own mental adjustments, because he is dimly aware of complexes. He escapes the difficulties of introspection into these complexes by unnecessary action directed towards his environment. If he develops a psychoneurosis, it is of the dissociated sort, like hysteria.

Introversion.

The introvert is an introspective individual. He tends to be analytical. He is individualistic partly owing to lack of interest in his fellows. His personality is better integrated than that of the extrovert, but he lacks force and self-confidence in relation to external affairs. This may not prevent him being a forceful thinker, if his intellect allows him to compensate for the lack of force towards affairs. He tends to develop the inferiority complex which, if psychoneurosis supervenes, results in neurasthenia. He is often a radical in politics and religion.

Ambiversion.

The intermediate condition is the ideal. The ambivert is free of the weaknesses, but possesses the strength of the two extreme types. Of course, these divisions are arbitrary. There are individuals intermediate between the ambiverts and the extroverts and between the ambiverts and introverts.

So far no attempt has been made to define what are healthy or satisfactory conditions for the development of conditioned responses and sentiments. These will be indicated on a future occasion, but let it be said here that instincts should be controlled in childhood by external agencies. Control should be distinguished from suppression. The term inhibition which Pavlov uses in describing his psychoneurotic dogs, should not be used when interpreting Pavlov's results psychologically. Suppression would be a better term. Children should be externally controlled during their development so that they may attain self-control. Suppression (unnecessary control) of their instinctive reactions or indulgence (lack of external control) will tend

to interfere with the development of self-control on the part of the child. The child will develop an unhealthy attitude to self instead of a normal self-respect. Self-respect is roughly equivalent to McDougall's self-regarding sentiment and Freud's ego-ideal. The group of instincts on which the self-regarding sentiment is erected is called by Freud the ego-instincts. (Compare *elan vital,* of Bergson.)

It is the self-regarding sentiment which provides the central core around which the rest of the personality develops. If it is unhealthily conditioned, it is referred to as the inferiority complex.

Inferiority Complex.

The inferiority complex has profound effects because it tends to bring about a stunted personality as far as action goes. It will be attempted later to indicate in more detail how this inferiority complex is formed from suppression or indulgent conditioning of the ego-instincts. It will also be shown how the process of compensation brings about inner fantasies of superiority. Many of the facts that have been presented, have been discovered by introspective methods, or introspection has been used in the interpretation of objective study of psychoneurotics by the method of free association. There are two reasons for this fact. We all know that in endocrinology the normal balance was worked out by interpretation of the observations made on extreme and striking departures from normal, such as exophthalmic goître. It was the same with psychoneurosis. The relatively extreme departures from normal were the most noticeable and could be correlated with the less extreme departures and the mechanism of normal balance finally deduced. The psychoses were not a fertile field of study so far as providing knowledge of normal mental processes went, because of the inability of psychotics to follow the technique of free association. Such a technique, however, provided an objective method of study of the psychoneuroses.

Free Association.

Freud was the first psychologist to make extensive use of the method of free association. There is nothing very unusual in this method. It consists of getting the patient to say whatever comes to his mind. It is the method one should adopt in getting the history of a physical complaint, especially when the examination is made with the hope of acquiring new facts, that is, as a scientific observation rather than as a clinical one. In case histories of the ordinary clinical type it is always necessary to avoid leading questions, and it is often advisable to listen to all that the patient says without interruption. Psychoanalysis has become a method of treatment as well as a method of scientific observation. Treatment by psychoanalysis, it should be remembered, is not identical with the method of free association which is a method of research.

It is the writer's opinion that more work should be done on the lines that Professor Lovell has followed. Psychoneurotics should be investigated by using this method without any intention of treatment. By so doing, evidence would be accumulated which would prove or disprove the contentions of Freud which have not been accepted by others.

It has been at least accepted that psychoneurotic behaviour is due to causes of which psychoneurotics themselves are previously unaware.

Neurasthenia.

When the method of free association was used, it was found that there was usually a recent cause for the difficulty in adjustment of the patient to his environment, such as the loss of employment. It was obvious that this was not sufficient cause. All who lose their employment, do not develop psychoneurosis. Continued use of the method of free association laid bare facts that indicated such things as suppression or over-indulgence in childhood and an inferiority complex in consequence. This would be associated with a defective self-respect (and competitive spirit) and so the patient would give in readily to a difficulty that a normal man would overcome.

Very often masturbation would be mentioned during the associations. This, however, was later found to be a symptom rather than a cause of the inferiority complex. It often led, nevertheless, to a very great increase in the feeling of inferiority. This was due to the unsuccessful attempts at self-control and the exaggerated nature of the warnings against the practice enunciated by parents and other instructors. Though masturbation was not the chief factor in causation, as Freud taught, it was often the factor that caused most difficulty in adjustment because of the strong emotion associated with it. The term neurasthenia could be used to describe such a case as the above, which developed on the basis of the inferiority complex. As has already been indicated, the dread produced by the unsuccessful control of masturbation in certain individuals increased the mental conflict already induced between the patient's real attainments and his self-regarding sentiments. Because the incorrect adjustment to environment had commenced at a very early age, it was found that a long and difficult psychoanalytical treatment was necessary to remove the basic cause of true neurasthenia. Shorter analysis would lead to removing more or less of the difficulties according to the depth of the analysis. The patient with neurasthenia or the individual who is troubled with the inferiority complex, is of the introverted type.

Hysteria.

Another type was observed when studying patients by the method of free association. This type of reaction corresponded to the condition which is called hysteria or conversion neurosis. When a war patient, such as one with hysterical paralysis, underwent free association, it was realized that he was of the relatively dissociated extroverted type of personality. It was found that prior to the

illness there was a conflict going on his mind between the impulse to run away and his self-respect. The normal expression of the instinct of self-preservation is fight or flight. Under conditions of trench warfare the effector part of the instinctive arc constituted by attacking the enemy was not possible except at intervals. The alternative effector action of flight was practically never allowable, except under strictly controlled conditions, such as a strategic retreat. In accordance with the law of the forward movement of a stimulus, of which Professor Lovell rightly stresses the importance, the stimulus which has passed along the receptor pathways, such as hearing (shell fire) and vision (appalling sights) must move onward through the conductor pathway or pathways. As it passes through this middle part of the instinctive arc, the emotion of fear is felt. The stimulus tends to bring about action, that is, it tends to pass into the effector pathway. Fight or flight is not possible, the first owing to external circumstances, and the second because of self-control. The desire to run away is the only effector action possible. Owing to this desire being incompatible with the individual's self-regarding sentiment, it is suppressed. Suppression of an instinctive response favours dissociation. As such an individual as is being described, is of the relatively non-integrated type (extrovert type) the chances of dissociation occurring are thereby increased. The occurrence of dissociation might be assisted by accidental conditioning. He might have had an injury to his arm in childhood or a clod of earth might happen to strike his arm. Dissociation might also be facilitated by the effect of concussion. A nearer shell burst might produce a temporary condition of disorientation. The result of all or of some of these factors could reasonably be expected to be dissociation of the mechanism which subserves control of the arm from the rest of the personality. The neurones connected to the arm muscles might be separated from the other neurones of the cortex perhaps by changes at synaptic junctions.

Such soldiers as developed hysterical paralysis *et cetera* were often found during free association subsequently to admit that they had indulged in wishes or "day dreams" of receiving a wound that would necessitate evacuation to England ("Blighty"). Such a fantasy (day dream) would help to bring about persistence of the dissociation because of "the advantage of illness." The law of the forward movement of a stimulus would also help to explain the persistence of the dissociation as well as its formation. Repression of the fear with its accompanying desire to run away has led to dissociation and the force of repression continues to be associated with the dissociation. It is the only expression that the emotion of fear can have, and as the conditions still persist that led to fear, and as the ability to withstand the force of fear has been lessened, repression continues. Here let me digress. While writing this paper the thought struck me that here was perhaps an example of transformation of energy or that perhaps repression depends on this phenomenon. We know that energy is never lost; it is merely transformed. It is just possible that application of the law of the conservation of energy to psychology may help to explain many things hitherto dimly understood. When discussing this with Dr. A. H. Martin, he mentioned that he had expressed this idea at the lecture which he gave to the Medical Science Club recently. This conception of Dr. Martin and Professor Lovell's conception of the law of the forward movement of a stimulus seem to me possible of being welded into one united whole. While on this subject it is interesting to note that the conception of energy applied to the realm of psychology is perhaps the central one in Janet's writings. To return to earth, not all soldiers who were exposed to such conditions and who were of the extrovert type developed hysteria. Those who did were those whose environment was such as to lead to maladjustments in childhood.

It was observed during the war that when officers developed psychoneurosis, it was of the neurasthenic type and that privates were more prone to develop hysteria. This is partly explained by the fact that education leads to more complete integration of the personality by favouring development of the self-regarding sentiment.

Complexes, then, are not the only factors in the development of psychoneuroses.

Professor Lovell rightly stresses the fact that education and adoption of the truly scientific attitude of mind favour integration of the personality and therefore have some value in preventing psychoneuroses, especially hysteria. However big this factor may be, it is also a fact that the best preventive measure would be avoidance during childhood development of the conditions that lead to the psychoneurotic tendency.

Psychoanalysis.

The next best measure would be by a preventive analysis to allow the individual to find out the cause of his own maladjustments. If possible, this should be done before he reaches adult years. It should be obvious that a complete psychoanalysis would be the best form of treatment also, should psychoneurosis develop. It would not only bring about removal of the symptoms, but removal of the cause of the symptoms. When the causes of maladjustments had thus been discovered, the individual would then be enabled to form healthy adjustments and finally the healthy adjustments would themselves become habitual. It should not be thought from what has been written that heredity is not a factor in the formation of psychoneurosis. Heredity has, however, been very much overemphasized in connexion with psychoneurosis, just as it once was with regard to physical disease, tuberculosis for instance. What was more natural before Koch's discovery of the bacillus of tuberculosis, when the child of tuberculous parents developed tuberculosis, to assume that this was due to the great god heredity. It is now known that the

child is brought up in an unhealthy environment, where it is being exposed to infection.

It is admitted that if a child were removed from the infective environment, it might nevertheless be more likely to develop tuberculosis than another child in whom there was no hereditary taint. Might not this predisposition be due to environmental factors also, namely, intrauterine kataphylaxia?

Whatever the influence of heredity, whether only moderate or considerable, it is nevertheless a fact that environmental factors are those most readily changed. For practical purposes, then, environmental factors should receive most attention in dealing with the prevention and treatment of tuberculosis. How much more must this be so with regard to psychoneurosis where the child is truly father to the man.

All psychoneurotic adults were exposed to an unsatisfactory psychological environment childhood. They may in addition be born psychopathic. Only those who favour eugenic principles hold out any hope of preventing psychopaths having children. Psychology indicates the way to prevent some of the maladjustments for which psychopathic parents are responsible today and can render help in treatment by making it possible for the individual to form new and healthy adjustments which will eventually become habitual.

Bibliography.

W. James: "Psychology," 1910.
I. P. Pavlov: "Conditioned Reflexes," 1927.
W. H. R. Rivers: "Instinct and the Unconscious," 1922.
F. Wood Jones and S. D. Porteus: "The Matrix of the Mind," 1929.
H. Pieron: "Thought and the Brain," 1927.
S. Freud: "Collected Papers," 1924.
W. McDougall: "Outline of Abnormal Psychology," 1926.
A. H. Martin: "The Concepts of Self and Personality," *The Australasian Journal of Psychology and Philosophy*, Volume IV, September, 1926.
C. G. Jung: "Psychological Types," 1923.
V. E. Fisher: "An Introduction to Abnormal Psychology," 1929.
A. Adler: "The Neurotic Constitution," 1921.
P. Janet: "Psychological Healing," 1925.

ELLIOTT'S TREPHINE OPERATION: A VARIANT.

By GEORGE BROOKES, F.R.C.S. (England),
Honorary Ophthalmic Surgeon, Royal South Sydney Hospital.

THE question of the non-operative *versus* the operative treatment of glaucoma is now more than ever engaging the attention of ophthalmic surgeons, especially those who operate frequently for this complaint. Much ink is being spilt to vaunt the efficacy of injections and drops.

In these circumstances any little help to improve the operative technique in the direction of insuring a good filtering scar is welcome. I have in the past, along with many others, been under the necessity of trephining an eye more than once in order to secure a really satisfying tension.

Recently I have adopted the following plan.

After rather less than the usual cocainizing by drops, the conjunctiva is seized as high up as possible and lifted well off the eye ball. Three-quarters of a cubic centimetre of a sterile solution of "Novocain" and adrenalin is then injected into the loose areolar tissue, the needle entering half way up the side of the tent, so to speak. After releasing the forceps and withdrawing the hypodermic needle, the bleb is massaged gently but firmly downwards over the limbus. After this one does not wait, for this allows infiltration and consequent brittleness of the flap, but opens immediately into the superior side of the bleb with one large cut of very blunt pointed scissors. These are then inserted, closed, into the wet pocket and opened laterally; a couple of side cuts allow the flap to be turned down over the cornea. After the field is mopped dry, it is surprising how little splitting of the cornea remains to be done with a metal instrument.

The above is no doubt little more than a slight variation of the usual method, but I consider it to be of supreme importance, in so far as the permanent and successful bleb is more likely to occur in Nature's plane of cleavage which the injection produces, than in any deeper or more superficial one, however gently made. The oozing, too, is minimal.

Elliott ("Glaucoma," page 536) instructs that the flap be made as thick as possible at its base. This in my opinion is wrong. A plane of tissue dissected by a metal instrument is more likely to heal down again; it is artificial and resented by Nature.

In the past some of my trephine holes have been rendered ineffective, not by plugging, but by becoming, as it were, papered over, and this even in the absence of any sepsis demonstrable by the slit-lamp. Now I secure very satisfactory blebs.

Reports of Cases.

A WANDERING SPLEEN IMPACTED IN THE PELVIS.

By ERIC M. FISHER, M.B., Ch.M. (Sydney),
Honorary Assistant Surgeon, Royal Prince Alfred Hospital, Sydney.

THE spleen is an organ that is not very firmly fixed in its normal position and yet is seldom found elsewhere in the abdomen. When it is so found it either forms a very mobile abdominal tumour or gives rise to an acute surgical emergency by becoming twisted on its pedicle. It sometimes reaches the pelvis, as in the case here reported.

W.J.D., aged sixteen years, was admitted to Royal Prince Alfred Hospital on February 17, 1926, complaining of severe abdominal pain for ten days. It began around the umbilicus and was severe and accompanied by vomiting. Micturition was painful and frequent. The pain afterwards settled in the right iliac fossa and lasted for four days. It recurred two days before admission and was again accompanied by frequent and scalding micturition. He had had no difficulty with his bowels and no previous attacks.

On examination he looked ill and sallow. His temperature was 39·4° C. (103·8° F.), his tongue was very furred. The abdomen was rigid below the umbilicus and was tender in both iliac fossæ, but more tender in the right.

Rectal examination revealed a hard, fixed, tender mass. The specific gravity of the urine was 1014, it was acid

and contained neither albumin nor sugar. The preoperative diagnosis was appendiceal phlegmon, probably with abscess.

At operation on February 17, 1926, a wandering spleen was found impacted in the pelvis (see accompanying figure). It was twisted so that the hilum looked backwards and was bent over the promontory of the sacrum. It was removed without difficulty and was then found to be spotted with areas of thrombosis and softening in the part below the sacral promontory. The part above seemed to be fairly normal. The vessels in the pedicle were tortuous and were filled with blood clot.

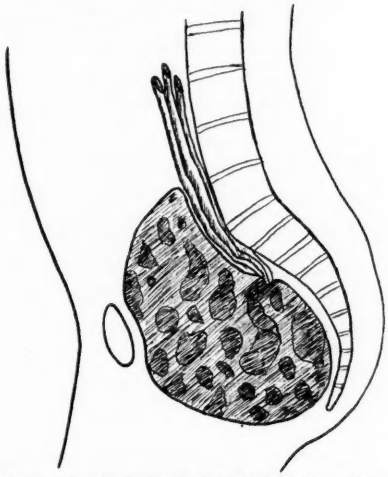


Figure showing spleen impacted in the pelvis.

He made a good recovery after running a high temperature for some days, although feeling quite well, a feature which is not uncommon after splenectomy.

A POSSIBLE CASE OF TSUTSUGAMUSHI OR JAPANESE RIVER FEVER OCCURRING IN THE MANDATED TERRITORY OF NEW GUINEA.

By B. A. SINCLAIR, M.B., Ch.M. (Sydney),
Medical Officer,
Rabaul.

THE patient, Mrs. F., was admitted to the Rabaul Hospital on July 6, 1930.

Nine days before admission she felt weak and very weary and two days later had to take to her bed. She was then suffering from fever, headache, generalized bodily aches and pains and profound weakness. She vomited occasionally, was constipated and had marked anorexia. For the week prior to her admission the fever was of a continuous type and ranged between 39·4° C. (103° F.) in the morning and 40·5° C. (105° F.) in the evening. Quinine in doses of 1·8 grammes (thirty grains) daily had no influence on her condition. Towards the end of the week she developed a cough with scanty sputum. About this time also a macular rash appeared on her chest and abdomen. Her husband observed, too, that she was becoming deaf and mentally dull. At the commencement of the illness a small, slightly swollen, red, irritable patch appeared behind the right knee. This developed into a sore with a dark brown scab. The husband states that at the time they both thought she had been bitten by some insect, probably whilst seated on the lavatory bench, but the patient has no recollection of actually having been bitten. She was admitted to hospital on the seventh day of her confinement to bed.

At the time of admission her temperature was 40° C. (104° F.), her pulse rate was 120 per minute. Her face was flushed, her eyes were dull and listless and her upper lids were drooping. Her expression was stuporous and she was very dull mentally. Her hearing was impaired. The pupils were equal and reacted to light. The knee jerks were absent, but the plantar reflex was hyperactive.

Examination of the thorax revealed only crepitations at the base of the right lung. The abdomen was distended and tympanitic, and held very tense. Examination for any enlargement of liver and spleen was difficult owing to the tense and distended abdomen. The skin and muscles of the body were hyperæsthetic and a non-irritable macular rash was present on the trunk, arms and legs.

In the right popliteal fossa there was a crater-like ulcer eight millimetres (one-third of an inch) in diameter, covered with a dark coloured scab. The ulcer was situated on an inflamed base of about 2·5 centimetres (one inch) in diameter.

Microscopical examination of her blood failed to reveal any malarial parasites. The urine and fæces did not contain anything pathological. On the twelfth day of her illness her leucocyte count was 10,500 cells per cubic millimetre. Of these 89% were neutrophile cells and 10% lymphocytes. Culture of the urine and fæces produced lactose fermenting colonies only. An attempt at blood culture on the fifteenth day was without result. On the ninth day the rash faded to a subcuticular mottling and on the thirteenth day her temperature fell below 39·4° C. (103° F.) for the first time during her illness.

On the eighteenth day there was no agglutination to typhoid and paratyphoid A and B bacilli, but agglutination to *Bacillus paratyphosus* C to a dilution of one in 160 occurred.

On the sixteenth day her temperature commenced to fall by a gradual lysis.

On the nineteenth day a sluggish knee jerk was elicited in the left leg, whilst that in the right leg did not appear till the twenty-fourth day.

On the twenty-eighth day her temperature fell to normal for the first time during her illness and the patient was now practically normal.

Hearing had returned, the generalized hyperæsthesia had gone, both knee jerks were active and she was mentally brighter. The ulcer was not completely healed until the thirty-sixth day. On the thirtieth day the Weil-Felix test gave no reaction with serum obtained from the patient that day and also to serum taken on the eighteenth day which had been kept on ice whilst we awaited the arrival of the *Bacillus proteus* X 19 emulsion.

The patient was discharged on the thirty-eighth day from the onset, completely recovered.

The outstanding points in favour of this being a case of tsutsugamushi or an allied typhus-like fever are: (i) Generalized hyperæsthesia, (ii) deafness, (iii) ulcer corresponding to the type described which only healed as the patient became normal, (iv) rash, (v) fever of a continued type with fall by lysis, (vi) mental stupor.

The atypical features were: (i) The rash did not appear on the face; (ii) there was a high pulse rate, 120 to 130 per minute; (iii) there was no evident glandular enlargement; (iv) a moderate degree of leucocytosis was present instead of a leucopenia.

Acknowledgements.

I am indebted to Dr. H. Champion Hosking, Acting Director of Public Health of the Mandated Territory of New Guinea, for his consent to my recording this case. My thanks are also due to Dr. T. Clive Backhouse for all pathological investigations and reports.

Reviews.

TAYLOR'S MEDICINE.

SPECIALTIES are now so subdivided in medicine that it is a difficult task for any one man to survey the whole field. Thus the revision of a standard text book is a formidable task, and it is refreshing to find that E. P. Poulton, of Guy's Hospital, so capably deals once more

with the revision of "Taylor's Practice of Medicine."[1] It is five years since the last edition was issued, and associated with the chief author are C. P. Symonds and H. W. Barber, who are responsible for the sections on diseases of the nervous system and the skin respectively, while R. D. Gillespie has added a valuable section on psychological medicine. Thus the book remains a "Taylor's" book, characteristic of and worthy of that school. It is fortunate, too, that Dr. Poulton has not submerged his personality; the individual touch always improves such a work.

It may at once be said that "Taylor" remains in its most recent form one of the leading single volume text books, and may be cordially commended to practitioners and students. Of course it suffers occasionally from compression; what single book of comprehensive design does not? Perhaps we miss the more leisurely and philosophical method of the older text books, but instead we appreciate the just mingling of the expert observation and judgement of the practised clinician with the more exactly calibrated findings of the physicist and the chemist.

The brief sections dealing with physiology and pathology are succinct and clear. For instance, hepatic and pancreatic function, blood reaction and acidosis, basal metabolism, alimentary toxæmia and the metabolism of carbohydrate are given just that amount of space that illuminates the subjects to which they are germane. Perhaps a more extended description of some of the commoner diseases would be advantageous, as also a rather more comprehensive treatment of tuberculosis and syphilis, but the pruning knife must cut somewhere. Actually, Dr. Poulton has contrived to make the general section of the book slightly shorter than in the previous edition without sacrificing clearness or sufficiency of detail.

The acute infections are neatly described and it may be said all through that the clinical pictures of morbid states convey a clear-cut image to the mind. One innovation here is the lifting of acute rheumatism from the infections and placing it among the circulatory diseases. This arrangement has much to commend it, for complete appreciation of this view would prevent the neglect of the subacute form of infection so common in children. A point of local interest in the description of pneumonia is the reference made to its successful open air treatment in Sydney.

The simplicity which is a definite keynote of the book, is evidenced in the classification of renal diseases which is reduced to easy terms, while due regard is paid to Russell's recent report for the Medical Research Council on this subject. Nephrosis Dr. Poulton regards as not a separate entity, but an intermediate station on the road leading to more permanent renal impairment, adopting the view that glomerular function can never be said to be entirely unaffected. In discussing renal efficiency tests, it is justly pointed out that not only the urea concentration percentages, but also the total excreted in a given time, should be taken into account. Pyelitis the author rightly rejects as a separate disease, logically describing the commoner pyogenic infections of the kidney under the heading of pyelonephritis.

Metabolic diseases are well dealt with. Diabetes is plainly set forth and mention of acute abdominal pain as a possible precursor of coma may be given as an example of the many practical points to be found in this work. Perhaps the diet tables could be extended with advantage; sample diets, for instance, give a concrete idea to the reader.

The endocrine system is brought up to date. Perhaps the author's views on thyreotoxicosis may not be considered by all to cover all the facts, but that is of minor importance, for the discussion is brief and lucid. The clinical description of myxœdema may be cited as an instance of the excellence of many such passages in the book.

Affections of the spleen suffer a little from compression as regards the accounts given of them, but no essential is omitted.

The letterpress and illustrations in the section on blood diseases are both very well done and the practice of giving the actual figures of the number of leucocytes of different kinds as well as the percentages should be commended to all clinicians and pathologists.

As might be expected, the recent work done by Barber and Oriel is included in the discussion of the allergic states, whose mechanism and ætiology receive adequate mention.

A good series of graphic records and radiograms enhances the value of the sections on cardiac, alimentary and respiratory diseases. Amongst the former coronary occlusion is now given a short, though sufficient, paragraph. Amongst the latter one would like to see greater stress laid on the importance of paranasal infections in the ætiology of bronchitis and bronchiectasis.

Dr. Symonds's section on nervous diseases is well arranged and written. He reduces to greater order the group including progressive muscular atrophy, amyotrophic lateral sclerosis, bulbar palsy and primary lateral sclerosis by describing them under the comprehensive term of motor neurone disease. Simplicity in a book of this size is also served by the omission of the complexities of classification of nervous tissue tumours introduced by the work of Cushing in his school. The addition of a section on cerebral contusion is welcome.

The new section on psychological medicine adds to the merit of the work. Into fifty pages Dr. Gillespie has put all that is needed, and has added a useful article on the legal relationships of mental disease—very necessary in view of the litigation of recent years.

The section on skin diseases is quite comprehensive and occupies 150 pages. This brings dermatology into line with general medicine, though we wonder if the text book of the future will not be forced to absorb such space in other ways.

It may be captious to point out omissions in such a work—a work that must be at once authoritative and brief. The wonder is that there are not more, but a few that may be mentioned are the recent work on Hodgkin's disease, the place of ramisection in Hirschsprung's disease and the intracutaneous tuberculin test.

Treatment, the weak point in some single volume books on medicine, is helpfully handled and many useful suggestions are given.

Each system description is followed by a well selected bibliography, a scheme that could be followed with advantage by some other medical authors, all of whom do not seem to realize that the reader is thus encouraged to be an inquirer.

The book is well printed and bound and generously illustrated with many plates, several of which are in colour. The radiograms in particular are illuminating and clearly reproduced.

Certainly the authors are to be congratulated on their well conceived and executed plan of revision, which has kept an already favourably known work on the high plane it previously occupied.

[1] "Taylor's Practice of Medicine," by E. P. Poulton, M.A., M.D., F.R.C.P., with the assistance of C. Putnam Symonds, M.A., M.D., F.R.C.P., and H. W. Barber, M.A., M.B., F.R.C.P., and R. D. Gillespie, M.D., M.R.C.P., D.P.M.; Fourteenth Edition, 1930; London: J. & A. Churchill. Royal 8vo., pp. 1090, with 64 plates (twelve coloured) and 103 text-figures. Price: 25s. net.

OTOSCLEROSIS.

"OTOSCLEROSIS," a publication by the American Otological Society in two volumes, is a complete *résumé* of the literature on otosclerosis up to July 1, 1928.[1] It is nothing more than a *résumé*; no criticisms of the work of any of the authors is offered. Although much advance has been made in the pathology of otosclerosis, the same progress has not been made in the treatment of this condition and the disease still remains the bugbear of otology. Admirably compiled, this massing of the literature should serve as the foundation for future research and as such it is intended. Volume I deals with pathology and ætiology, Volume II being devoted to symptoms, diagnosis, treatment and bibliography. The evidence for and against Röntgen ray and radium irradiation and the references to endocrine dysfunction are illuminating. The volumes should find a place in the library of every progressive otologist.

[1] "Otosclerosis: A Résumé of the Literature to July, 1928," compiled under the direction of the Committee on Otosclerosis, American Otological Society; A. B. Duel, M.D., Editor; Volumes I and II; 1929. New York: Paul B. Hoeber, Incorporated. Royal 8vo., pp. 730. Price: $15.00 net.

The Medical Journal of Australia

SATURDAY, DECEMBER 6, 1930.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

PENSIONS AND PENSIONERS.

THE amount of money spent every year in Australia on pensions and allowances is enormous. Old age and invalid pensions in 1928 absorbed £9,790,346 and the cost of administration was £118,641. Maternity allowances for the year 1927-1928 cost the Commonwealth £678,920 and the cost of administration was £15,489. According to the "Official Year Book of the Commonwealth of Australia" for 1929, the total expenditure for war pensions for 1927-1928 was £7,607,281 and the cost of administration was £183,178. The grand total in pensions and allowances was £18,076,547 and the cost of administration was £317,308. The estimated population of the Commonwealth for 1928 was 6,336,786 persons. Perusal of these figures cannot fail to make every thoughtful member of the community ask whether the State has not been too generous, in other words, whether every pensioner is justly entitled to the money received by him. It must be made quite clear that it is not suggested for one moment that provision should not be made for permanent invalids, for old people or for ex-soldiers suffering disability on account of war service. It is true that it is held by many members of the medical profession that the money spent on maternity allowances might be spent to better advantage in other directions; but that is by the way. Apart altogether from the question of waste of national money, it is necessary to remember that the receipt by any individual of a pension to which he is not justly entitled from every point of view, has a detrimental effect on the character of that individual. What affects the individual reacts necessarily on the nation as a whole.

In another place in this issue there appears a paper by Dr. S. F. McDonald, of Brisbane, on the problem of the pensioner. This paper, written from the point of view of a medical practitioner who is not on the permanent staff of the Repatriation Department, should be carefully studied. Readers may not agree with all that Dr. McDonald has written. That will not matter. If they consider the whole problem from the national point of view and from the medical point of view as well, if they endeavour to eliminate from their minds political considerations, they cannot fail to reach conclusions likely to be of use in the future. Dr. McDonald draws attention to the large expenditure of public money. This amount is increasing. At the end of the twelve months ended June 30, 1930, £7,897,289 was expended in ex-soldiers' pensions and it is estimated that the amount at the end of the next period of twelve months will be £7,957,000. Medical treatment, education of soldiers' children, administration and other items absorb another £1,213,314. It is somewhat difficult to understand the reason for the increase. It may in part be due to the method of assessing pensions under existing legislation. The method may be described somewhat as follows. If an ex-soldier reports to the Repatriation Commission and suffers from a condition diagnosed, for example, as chronic bronchitis, the Commission may decide that the bronchitis is not the result of war service. The Commission consists of three non-medical men, but it is assisted in arriving at its decision by its own staff of medical men and by the Medical Advisory Committee, consisting of men eminent in the medical world. The ex-soldier may, if he desires, appeal to the Entitlement Tribunal. This body consists, as Dr. McDonald has pointed

out, of three laymen; there is no medical adviser. The tribunal need not seek medical advice, though it occasionally does call in the aid of medical practitioners. Should the Entitlement Tribunal decide that the bronchitis was occasioned by war service, the Repatriation Commission has to accept the decision, though it may appeal to the Entitlement Tribunal on the grounds that it has fresh evidence to offer. Eventually the Repatriation Commission has to accept the findings of the Entitlement Tribunal, though it may appeal after any interval, if fresh evidence is available. The Repatriation Commission has the duty of assessing the pension. If the ex-soldier is not satisfied, he may appeal to the Assessment Tribunal. This is a body consisting of a non-medical chairman and two medical members chosen from a panel of practitioners appointed by the Minister from among practitioners in the several medical specialties. It is essential that the medical members of the tribunal shall not have previously examined the appellant. The Repatriation Commission may have had the appellant under observation of its expert advisers for months or years and they may know all that is to be known of the appellant's physical and mental condition, yet the Repatriation Commission must accept the findings of the tribunal. This tribunal, moreover, has the power of increasing, but not of decreasing, the pension. The only grounds on which the Repatriation Commission may appeal is on that of false evidence. Dr. McDonald has drawn attention to the mental factor and its importance in pension awards and assessment. There can be no doubt that this factor and the peculiar machinery of the Acts have something to do with the increase.

The remedy is difficult to find. It is idle to expect any alteration at the present time in the laws relating to this matter. We do not believe that exaggeration of symptoms, the "lead swinging" of other days, is deliberate in an overwhelming majority of instances. Very often the patient's mental outlook is the result of a combination of circumstances over which he has little, if any, control. It is to the mental aspect that medical practitioners must pay most attention in the treatment of ex-soldiers. As already pointed out, both national and personal considerations demand this concentration. For the future the medical profession must oppose by all available means the tendency of allowing the legislature to appoint lay tribunals to sit on medical questions.

Current Comment.

VISCERAL PAIN.

FEW contributions to medical science within the past half century have been of such great practical value in diagnosis as the knowledge of referred pain, gained by the investigation of Ross, Head and Mackenzie. Mackenzie wrote expressly for the general practitioner and, largely on this account, his work is most appreciated. His views have been widely accepted, but recently some few observers have differed from him and have expressed their belief in the existence of visceral pain. Among these are numbered Mayo, Head, Hurst, Buzzard and Ryle. In an interesting paper in THE MEDICAL JOURNAL OF AUSTRALIA of January 21, 1928, Kinsella expresses the opinion that visceral pain does exist. He believes that such pain is due to pressure on the nerve endings caused by either vascular congestion or violent muscular contraction. He, however, does not offer any suggestions with regard to the mechanism concerned in the reflex conduction of pain. Mackenzie's theory of the cause of referred pain, briefly, is that certain stimuli, reaching the cord by way of the afferent splanchnic fibres, cause a local irritation in the cord on the route of the sensory nerve fibres to the brain; pain is then felt in that area from which these sensory fibres normally receive their stimuli. Thus is constituted the viscero-sensory reflex. Similarly the viscero-motor reflex is brought about by an irritation of the cells or fibres of the motor nerves arising in the particular segment of cord affected. The theory is rather vague, though as a very necessary attempt at an explanation of a recognizable phenomenon it has its value. It may be asked why, if the irritation is in the spinal cord, should there be hyperæsthesia. This may be met, however, with the ready reply that a stimulus such as that provided by pressure which would not normally produce a sensation of pain, may conceivably do so when the nerve centre through which it has to pass, is in an irritable condition. The local application of heat is a common procedure for the relief of referred pain. On what does its success depend? Surely it can have no soothing effect on any irritable area in the spinal cord. Head suggests the possibility that referred pain may be of a similar nature to the phenomenon of allocheiria, as may be observed at the examination of a tabetic. Allocheiria is the perception of a sensation in one limb when a stimulus has been applied to the other. But such a theory by no

means fits in with the known facts; furthermore, it is difficult to draw analogies between the results of stimulation applied to somatic and splanchnic afferent fibres, especially when so little is known about the course and destination of the latter and when, in fact, the anatomy and physiology of the whole autonomic system are as yet imperfectly understood.

R. D. Rudolf and A. G. Smith are among the most recent contributors on the subject of visceral and referred pain.[1] They point out that if referred pain be due to an excitation of the central cells in the spinal cord, the division of the afferent somatic fibres innervating the area in which the mind conceives the pain to be, should not result in any loss of pain. But it is well known that the local application of anodynes of various kinds may effect a considerable relief, and as far back as the year 1863 Hilton wrote that "these superficial pains, although depending upon a remote cause, may sometimes be relieved by local anæsthetics, as prussic acid, hemlock, belladonna and opium." Lemaire and later Weiss and Davis showed that infiltration of the skin with a solution of "Novocain" resulted in the relief of referred pain. Rudolf and Smith have confirmed these observations. They provide a number of histories of patients as illustrative of the effects of local anæsthesia in the relief of *angina pectoris* and the pain of cholecystitis, appendicitis *et cetera*. The loss of tenderness over the gall bladder and McBurney's point was an interesting feature of these experiments. This appears to disprove Kinsella's view that the tenderness associated with abdominal disease is due to increased pressure on the nerve endings in the diseased viscus. Of course, Mackenzie long ago demonstrated the existence of hyperalgesia of the pectoral muscles due to cardiac disease.

In many instances Rudolf and Smith observed that after the injection of "Novocain" solution pain recommenced at an adjacent site. They contend that this phenomenon may be accounted for by allocheiria, and explain that it is due to spread of excitation to adjacent centres in the central nervous system. For the purpose of one experiment a healthy male volunteer swallowed a toy balloon attached to a rubber tube and pressure gauge. The balloon was allowed to pass to the lower end of the œsophagus and was then slowly inflated until a pressure of forty millimetres of mercury was reached. Pain was felt over the lower part of the sternum. This was relieved by the injection of a solution of "Novocain," but recommenced lower down; the second area was infiltrated and then the pain was felt in the epigastrium; a third injection was followed by a transference of pain to the tissues covering the upper part of the sternum; a fourth injection relieved all superficial pain. The experiment was repeated on several different subjects with almost identical results.

[1] *The American Journal of the Medical Sciences*, October, 1930.

"Allocheiria" is an elastic term, but to apply it to such a condition as this is to give it an interpretation far removed from its original meaning. The allocheiria of hemisection of the cord, *tabes dorsalis* or disseminated sclerosis is by no means comparable to the variability of the site of pain due to stimulation of splanchnic afferent nerves.

There is a considerable diversity of opinion concerning the cause of the relief of referred pain by local anæsthesia. Sicard and Lightwitz believe that "cutaneous shock" results in the passage of inhibitory impulses to the posterior root ganglia and the cord. Lemaire suggests that "Novocain" passes along the nerves, as do the toxins of rabies and tetanus. Weiss and Davis are of the opinion that the "Novocain" solution, by blocking the somatic afferent nerves, checks the passage of the afferent impulses which in a normal person are constantly transmitted and which become recognized as painful only when an irritable area exists in the spinal cord. Assuming Mackenzie's theory to be correct, this seems to be the most rational hypothesis.

Rudolf and Smith advance the interesting theory that the upper somatic neurones respond to stimuli when they are in their normal condition of what may be termed "sensory tone" or "tension," just as the strings of a violin must be on tension in order that they may vibrate to the touch of the bow. The suggestion is that numbing the afferent nerve endings by the application of "Novocain" so reduces this tension that the neurone is unable to respond to stimuli, though the authors are unable to say whether the tension is maintained by the constant passage of afferent impulses from the periphery or by some other factor.

It is obvious that the problem of the mechanism concerned in the production of referred pain is still unsolved. So little is known about the autonomic nervous system that the most fantastic theories are worthy of more than passing thought. It is not impossible that something in the nature of an axone reflex may be concerned. Sympathetic nerves may have functions which are as yet unheard of; an axone reflex may result in the passage of stimuli to the skin where the contiguous nerve endings of the somatic sensory nerves become affected and a sensation of pain in a peripheral area is experienced. The idea is perhaps far-fetched, but the possibility of such a phenomenon is not inconceivable.

AN APPEAL.

DR. E. S. LITTLEJOHN, the Honorary Treasurer of the Medical Benevolent Association of New South Wales, has made an appeal on behalf of the Council of the Association for additional support at Christmas time. The help that is given to beneficiaries suffices merely for a bare existence. The beneficiaries are all members of the medical profession or their dependants. This appeal is made with confidence. Dr. Littlejohn's address is 135, Macquarie Street, Sydney.

Abstracts from Current Medical Literature.

GYNÆCOLOGY.

Early Diagnosis of Uterine Carcinoma.

E. ZWEIFEL (*Deutsche Medizinische Wochenschrift*, August 15, 1930) makes an earnest plea for the earlier diagnosis of uterine carcinoma if better results from treatment are to be expected. Any hæmorrhage after the menopause is of especial importance. His investigations show that more than four-fifths of cases of hæmorrhage after the climacteric and approximately one-third of those at the menopause are due to genital neoplasms. Non-malignant causes of bleeding are erosions, polypi and ulcers associated with prolapse. While the differential diagnosis is easy in many instances, examination of a portion of tissue is required whenever there is doubt. Finally, he urges that hæmorrhage at or past the menopause should never be treated by drugs alone, but a careful local examination should be insisted upon.

The Anterior Lobe of the Pituitary Gland.

B. ZONDEK (*Deutsche Medizinische Wochenschrift*, February 21, 1930) discusses his latest investigations into the function of the anterior lobe of the pituitary gland. The active principle is known as "prolan." He states that the reaction noted in early pregnancy and called the Zondek-Ascheim test, occurs only in humans and apes and is absent in cattle. He is convinced that "prolan" is not a single hormone and describes "prolan *A*" and "*B*" as being present in the urine of pregnant women. "Prolan *A*" is not characteristic of pregnancy and may be found in persons suffering from tumours and in women following the menopause or removal of the ovaries. Regarding tumours, the Zondek-Ascheim reaction is not pathognomonic of malignancy, as it occurs to a varying degree in both innocent and malignant growths. The reaction is rare with ovarian cysts and is present in one-third of the number of women affected with fibroids. Of people suffering from genital carcinoma, however, 81% react to the test. This is interesting because with extragenital carcinoma the proportion is the same as with fibroids. He considers that as the reaction is present at the menopause and after oophorectomy it will be of assistance in diagnosing, whether ovarian function is in abeyance or not.

Krukenberg Tumour.

JAMES D. TYNER (*The Clifton Medical Bulletin*, April, 1930) reports a case of Krukenberg tumour of the ovary associated with carcinoma of the stomach. In 1918 a review of the literature revealed that 17 of a series of 55 Krunkenberg tumours were considered to be primary growths and the remaining 38 were deemed to be secondary deposits. In 90% of instances the disease was said to be bilateral. The author's patient, aged 48 years, was the mother of two children. Cramp-like pains in the lower part of the abdomen formed the initial complaint; later, similar pains were experienced in the thighs. Examination revealed a mass in the epigastrium which was considered to be an enlarged liver, and an irregular mass rising above the pubes which was considered to be continuous with the uterus. Ecchymoses were present over the left patella and a bilateral Babinski sign was elicited. The only abnormality revealed by an examination of the blood was secondary anæmia. Laparotomy was performed and an extensive carcinoma of the stomach was found associated with a tumour of one ovary which measured 17 centimetres by 12 centimetres by eight centimetres. This tumour was nodular, partially cystic, with areas of solid grey tissue. The cysts contained gelatinous material, many being blood stained. The solid grey portion contained masses of large cells which exhibited at many situations attempts at the formation of alveoli. The patient died seven weeks later. No autopsy was performed.

Prolapsus Uteri.

WILLIAM FLETCHER SHAW (*Proceedings of the Royal Society of Medicine*, June, 1930) reviews the operative treatment of *prolapsus uteri* from the point of view of his own experience. He has reviewed the results of the Fothergill operations for prolapse as practised in the Manchester school since its introduction by Professor Donald over forty years ago. After reviewing the causation, symptoms and anatomy of the pelvis, he deals with the operative treatment. He divides the operations used in prolapse into five classes: (i) Some form of hysterectomy, (ii) some form of abdominal uterine fixation, (iii) some form of vaginal interposition operation, (iv) Le Fort's operation, (v) colporrhaphy. After reviewing the history of colporrhaphy and making reference to the various developments of the operation, the author describes colporrhaphy as done by himself. It is a modification of the original operation done by Professor Donald and modified by Fothergill and others. The article is illustrated by twenty small figures which show clearly the various steps of the operation as practised by the author. Results are reported from the statistics. Among 1,828 patients operated on, there were eight deaths, giving an operative mortality of 0·43%. A *questionnaire* was sent to a number of patients who had been operated on from three to seven years ago. Out of 293 replies 282 reported no recurrence and 11 reported a recurrence, giving a recurrence rate of 3·7%. Of 13 patients with recurrence, five have had children since the operation. The author claims that subsequent childbirth is not affected by the scar tissue around the cervix. Eighteen patients had children subsequent to the operation; of these 13 had no recurrence and five had recurrence. Seventy-nine patients were over fifty years of age, and of these only two had a recurrence. The post-operative treatment used by the author is very simple. The perineum is kept as dry as possible. After each action of the bladder and bowels the perineum is swabbed with lotion, dried with spirit and recovered with a sterile pad. Dry sterile gauze is packed into the vagina for twenty-four hours after the operation to prevent oozing and on the fifth day a vaginal douche of boracic lotion is given to wash away any blood clot that may have accumulated in the vagina. A catheter is frequently required for two or three days. Occasionally hæmorrhage sets in about one week after operation. The author has found it sufficient in most cases to give a mild antiseptic douche and an iodex pessary for a few days. Occasionally it is necessary to pack the upper part of the vagina. Only on two occasions has it been necessary to restitch the incision. The author strongly urges deferring operation until any ulcer that is present on the cervix has healed. These ulcers will generally heal in three weeks with rest in bed and regular douches.

Hysteropexy and Pregnancy.

ARTHUR E. GILES (*Proceedings of the Royal Society of Medicine*, June, 1930) has discussed the relative advantages of fixation of the uterus in regard to subsequent abdominal complications and pregnancy. In 1910 the author published a series of statistics on the after results of abdominal operations on the pelvic organs based on a series of one thousand consecutive cases. The present paper is really a sequel to that original paper. The author objects to the use of the term "ventrofixation" and "ventrosuspension" and urges the exclusive use of the term "hysteropexy." According to the author, the correct way in which to perform hysteropexy is to pass three sutures of stout silk (catgut does not last long enough) through the anterior surface of the uterus as low down and as near to the bladder reflection as possible; and on either side the sutures are passed through fascia, muscle and peritoneum. He admits that serious results may follow fixation of the uterus by any other method than the one that he has outlined, if the patient subsequently falls pregnant. He reviews 311 patients operated on up to June, 1909. In the last twenty years the author has performed 1,113 hysteropexy operations, making a total of 1,424 for the whole series. Of these 767 have been in married women forty years and under. Of those who have been traced, 107 became pregnant and between them they had 139 pregnancies. There were 110 full-time deliveries and 24 miscarriages, while the result unknown

is five. The author gives a table of 59 cases with particulars of pregnancy of which he had records. In the 110 confinements the author claims that there was no difficulty or complication caused through the operation. Further, he claims that pregnancy has no appreciable effect in producing a return of displacement after hysteropexy has been performed.

OBSTETRICS.

Hydatidiform Mole.

MARGARET C. STURGIS (*The American Journal of Obstetrics and Gynecology*, May, 1930) discusses the maternal mortality in hydatidiform mole which is generally reported as due to either hæmorrhage, sepsis, perforation of the uterus followed by peritonitis, or chorionepithelioma. The author refers to the difficulty of discovering how many reported cases of chorionepithelioma have followed upon a previous hydatidiform mole. The author gives details of facts learned by following up ten patients treated by curettage of the uterus; five have had normal pregnancies since. The author thinks that hydatidiform mole occurs more frequently than is reported, that hæmorrhage and infection are the most serious complications. Delay is the greatest danger in treatment. Careful curettage is the safest treatment for young women, but in patients who are near the end of their child-bearing period, hysterectomy is advisable.

Treatment of Placenta Prævia.

J. WIELOCH (*Klinische Wochenschrift*, September 6, 1930) reviews the treatment of *placenta prævia* adopted by Zangemeister. *Placenta prævia* was observed in 124 instances during a period of five years. In 34 instances the placenta was central, 35 marginal and 55 lateral. The maternal mortality was 4% and the infant mortality 44% (if only viable children be included it was 28%). In 20% of instances spontaneous delivery occurred. Cæsarean section was performed on six occasions only without any maternal or fœtal mortality. It was reserved for use when there was absolutely no evidence of sepsis, when there were no history of vaginal examination and no great loss of blood and the fœtus was alive and near term. He considers that the best treatment in the average case is podalic version either before or after the use of the hydrostatic bag. In eight instances the degree of anæmia was so great that he preferred supravaginal hysterectomy as the quickest way of controlling the hæmorrhage. Two of these patients died in spite of the operation.

A Test of Labour.

JOHN M. LAFERTY (*American Journal of Obstetrics and Gynecology*, May, 1930) reports a series of observations of the tests of labour devised by Tweedy in a series of cases at Saint Mary's Hospital, Philadelphia. Tweedy's rules are: First, determination of maternal pulse and temperature every two hours or more often; second, a count of the fœtal heart sounds every two hours or more often; third, when the pulse and the temperature of the mother rise above 37·8° C. (100° F.), interference is indicated on behalf of the mother; fourth, when the fœtal heart sounds rise above 160 or fall below 120 on three consecutive counts at one minute intervals, interference is indicated on behalf of the baby. The author strongly advocates the use of this test in cases of difficult or doubtful prognosis. He claims that the advantages of the Tweedy test are: First, that it is scientific, being based on observed physical findings; secondly, it is easily carried out; thirdly, that unwarranted and pernicious interference with labour would be avoided in many cases; and fourth, it relieves the worry and anxiety on the part of the relatives. He claims that it has proved its value in fourteen years of careful trial at Saint Mary's Hospital and has rarely failed to indicate distress of mother or fœtus in time for proper interference to be carried out. It has frequently saved women from dangerous operative deliveries, while it has often indicated the need for interference when no such need was suspected.

The Ascheim-Zondek Reaction.

H. C. MACK (*Surgery, Gynecology and Obstetrics*, October, 1930) discusses the value of the Ascheim-Zondek reaction as a test for pregnancy. A quantity of about thirty cubic centimetres (one fluid ounce) of urine, preferably from an early morning specimen, is acidified and one drop of "Lysol" or "Tricresol" is added as a preservative. The urine is kept refrigerated. To five female mice, three to five weeks of age, subcutaneous injections of 0·3 cubic centimetre of urine are administered twice a day for three days. At the beginning of the fifth day the mice are killed and their ovaries examined. The changes which occur in the ovaries, if the urine is obtained from a pregnant woman, are (i) ripening of follicles, ovulation and œstrus, (ii) hæmorrhage into the follicles, (ii) luteinization of the follicles which occurs so rapidly that the ovum is imprisoned. The presence of reaction (ii) or reaction (iii) is diagnostic of pregnancy. The changes are usually apparent on macroscopical examination, but microscopical examination may be necessary. The author applied the test to 49 pregnant women and four puerperal women. The typical reactions were observed in every instance. As controls three normal women, three men and 29 women suffering from a variety of pelvic disorders were tested. In one instance only did a mouse react to the injections. The author suggests that this was due to some error, as the reaction was observed in the ovaries of only one of the five mice used in the experiment. The author concludes that the Ascheim-Zondek test is of clinical value as an adjunct to ordinary clinical methods used in the diagnosis of pregnancy.

Puerperal Mastitis.

K. MEYERHOFF (*Klinische Wochenschrift*, August 16, 1930) describes the methods of treatment of mastitis at the Giessen Clinic. In 5,000 deliveries there were 40 cases—13 interstitial and 27 parenchymatous. In ten instances abscess formation occurred and required operative treatment. During pregnancy prophylaxis is confined to careful cleansing of the nipples. Before the first feed the whole breast is washed with soap and water while the nipple is dabbed with alcohol. Both before and after the feeding the nipple is wiped with boric solution. Between feeds the breast is covered with a sterile soft cloth. Great importance is placed on regular and complete evacuation of each breast. The common cause of mastitis is stagnation of milk in the lobules and the passage of infection down through the milk ducts. If the infant cannot completely empty the breast, this is done with the breast pump. Cracked nipples, an important cause of interstitial mastitis, are treated by the application of an ointment containing 10% anæsthetin. He approves of the use of a nipple shield during the treatment of the cracks.

The Calcium Content During Pregnancy.

A. CANTAROW, THADDEUS L. MONTGOMERY AND W. W. BOLTON (*Surgery, Gynecology and Obstetrics*, October, 1930) report the results of their investigations into the calcium content of the blood of women during pregnancy, parturition and the toxæmias of pregnancy. Most observers have noted a diminution in the blood calcium content during the later months of pregnancy. With this finding the authors are in agreement, but they also note that there is an alteration in the distribution of the various forms of calcium in the body. The diffusible calcium is increased slightly in quantity, while there is a pronounced decrease in the quantity of non-diffusible calcium. This becomes more pronounced during the first stage of labour. The authors point out that this variation in the forms of calcium is identical with that observed in a person suffering from asthma. During the earlier months of pregnancy the calcium content does not vary beyond normal limits. During the toxæmias of pregnancy there is a relative and usually an absolute increase in the quantity of non-diffusible calcium. The authors suggest in conclusion that this may be due to a diminution in the permeability of tissue cells. They point out that such a condition might well be associated with the disturbance of function to which the various organs are subject as a result of toxæmia.

Special Articles on Diagnosis.

(Contributed by Request.)

XXII.

MALIGNANT DISEASE OF THE LARGE INTESTINE.

THE large intestine is a common site for carcinoma, second only to the stomach in the male, though in the female the generative organs are second in point of frequency. The sexes are about equally affected. More than 50% of cases of carcinoma of the large intestine are inoperable when the diagnosis is made or laparotomy is undertaken. If the rectum be excluded, carcinoma is five times more frequent in the left half of the colon than the right; if the rectum be included, it is ten times more frequent in the left half.

About 50% of patients with carcinoma of the colon are admitted to hospital with a diagnosis of intestinal obstruction and the mortality of this complication is almost 50%. If strangulated hernia and intussusception are excluded (and this is not usually difficult) 90% of obstructions of the colon are due to carcinoma.

Pathology.

Three types of growth may be recognized:

1. A fungating type with ulceration a marked feature, more common in the right half.

2. A ring type with constriction of the bowel lumen, more common in the left half.

3. A colloid type which is comparatively rare.

Local growth and dissemination are slow in the colon and nearly 50% of cases are found at operation or autopsy to be free of metastases and secondary deposits, that is, successful removal of the disease is possible. Early diagnosis is therefore of supreme importance.

In the right half of the colon the contents are fluid, the lumen is large and much absorption of fluid takes place. In the left half the contents are semisolid, the lumen is smaller and the lower part of the sigmoid is closely related to the mechanism of defæcation. It is to be noted that ulcerating growths predominate in the right half and obstructive growths in the left half.

Symptoms.

Unfortunately carcinoma in itself does not produce symptoms; these arise only when the growth has progressed sufficiently to cause interference with the normal bowel functions or to set up complications. The symptoms may be of the following types, either singly or variously combined: (i) Obstructive, (ii) ulcerative, (iii) perforative with infection, (iv) bleeding, (v) characterized by tumour formation.

Obstructive Symptoms.

Owing to the preponderance of left-sided growths of the constricting or ring variety, obstructive symptoms are most frequent. They are first manifested by alterations in the normal bowel routine, colicky pains and distension of the bowel proximal to the growth.

In regard to alterations in the normal bowel routine, in most normal people the stimulus of the first meal of the day or cup of tea results in a stimulus to bowel action. As narrowing occurs, the patient's normal routine is interfered with and the bowels become capricious. The patient who has not previously required aperients, has to resort to them; or if he has needed them occasionally, has to increase their dose and frequency. The usual feeling of satisfaction after a bowel action is no longer obtained. An unsatisfactory early morning "diarrhœa" may be present. It is of special significance that the difficulty with the bowels is progressive, although there may be remission of symptoms for varying periods. The classical alternating constipation and diarrhœa is usually not an early symptom, as it is evidence that obstruction is well advanced, the bowel contents being retained proximal to the obstruction until rendered fluid enough by decomposition and liquefaction to pass on. Sometimes patients with increasing constipation give a history of increased frequency of small unsatisfactory bowel movements, the stools often consisting chiefly of mucus, which is called "diarrhœa."

Colicky pains next appear as obstruction increases; they are often set up by aperients or the taking of food. A feeling of distension or tightness usually coexists, and patients often regard this as flatulent dyspepsia. Cholecystitis or gall stones may be diagnosed, as in two recent patients with carcinoma of the transverse colon who were admitted to hospital as suffering from biliary colic. Close inquiry will, however, usually elicit that the pains follow a regular sequence along the colon from the right to the left side of the abdomen and often end at a constant place with audible rumblings of gas and a feeling of local hardening or distension with pain which subsides as the gas passes on. The patient can thus often locate the site of the obstruction with reasonable accuracy. Here again it is the progressive march of symptoms which is of such sinister significance.

In regard to distension of the bowel proximal to the growth, sometimes this is first observed during the colicky pains by patients of spare build, but it is more often detected on medical examination. The brunt of increased intestinal pressure is reflected back to the caecum and this causes visible or palpable fullness in the right iliac fossa. Of special significance is a palpably enlarged caecum which is felt to harden under the examining hand and later relax; or gentle massage may sometimes stimulate it to do so. These recurrent caecal pains may simulate mild appendiceal attacks.

Ulcerative Symptoms.

Ulcerative symptoms are more frequent in right-sided growths and may take the form of causeless attacks of "diarrhœa." Colitis may be simulated and actually is often present in the vicinity of the growth, the inflamed and ulcerated mucous membrane forming increased quantities of mucus. Also colitis, especially if of long standing and associated with polyposis, is sometimes succeeded by carcinoma. True ulcerative colitis may usually be distinguished from carcinoma by the character of the stools and by sigmoidoscopic examination. In carcinoma one usually finds soft, dark, blood-stained, mucus-containing stools, sometimes in small fragments, while in ulcerative colitis the fluid or semifluid bowel contents with mucus, blood or pus intimately mixed are distinctive. The sigmoidoscopic appearances of colitis are also characteristic.

In growths of the caecum and ascending colon a severe secondary anæmia simulating pernicious anæmia may occasionally cause the patient to seek medical advice and the cause of the anæmia is found to be a carcinoma.

Symptoms due to Perforation and Infection.

The third type of symptoms are those resulting from perforation with infection through the bowel wall.

If localization of the infection occurs with abscess formation on the right side, an appendiceal abscess may be simulated, or if in the left side of the abdomen, diverticulitis. Even at operation the diagnosis may be difficult and errors made both ways. A hard indurated mass involving the bowel wall, thought to be carcinoma, may clear up completely after drainage, or an apparent appendiceal abscess proves later to have been due to infection through the base of an ulcerating carcinoma of the caecum or a stercoral ulcer.

Sometimes walling off of the perforation does not occur and a general peritonitis results which is almost uniformly fatal, owing to the toxicity of the intestinal contents.

Bleeding.

Bleeding is usually small and repeated. The nearer the growth is to the anus, the less altered will the blood be; clots may sometimes be present if the growth is low down. Occasionally the bleeding may be so severe as to threaten life. Microscopical traces of blood may be detected by Gregerson's benzidine test, which is very reliable—a blue

or blue-green colour appearing in thirty seconds is proof positive of occult blood, irrespective of the patient's diet beforehand.

Detection of a Tumour.

The tumour may be curiously elusive and is occasionally first found by the patient feeling round a painful spot. The temporary disappearance of a suspicious tumour after an enema with bowel emptying does not necessarily exclude the pressure of a growth. The tumour may return as bowel contents again collect behind the obstruction.

General Findings.

Finally, patients with well advanced carcinoma of the colon are frequently well nourished and do not present the loss of weight, strength and energy which are more often found in cases of carcinoma of the stomach. Earlier recognition of cases will result from the association of symptoms which may appear trivial and readily explainable on some simple basis when considered singly, but when considered collectively may be pieced together to form a circumstantial case demanding further investigation. The importance of a carefully taken history with a searching cross-examination of the patient for details should be emphasized and in a suspicious case repeated examinations should be made. Once the suspicion of malignant disease as a possible cause of the patient's symptoms has been aroused, the most important step in the investigation of the condition has been taken.

Methods of Examination.

The further methods of investigation are five in number.

1. *Inspection and Palpation of the Abdomen.* Especially examine in a good light, with the muscles well relaxed, for: (*a*) Tumour. (*b*) Evidence of distension of the colon, noted in the flanks or across the upper part of the abdomen. The caecum may be palpably distended and may be felt to harden and relax often with gurgling. (*c*) Visible or palpable intestinal peristalsis. (*d*) Tenderness or rigidity located in a definite area, with or without a palpable tumour, indicating local inflammatory changes. The hepatic and splenic flexures are difficult to palpate, especially the latter, owing to their high situation under cover of the ribs. (*e*) Presence of secondary deposits or metastases.

2. *Rectal Examination.* Rectal examination may reveal: (*a*) A growth in the lower sigmoid or in a loop higher up which has fallen to the bottom of the pelvis. (*b*) Secondary deposits in the pelvic peritoneum. (*c*) "Ballooning" of the rectum which is occasionally met with in growths of the left half. Additional information may be gained by a bimanual examination, especially under an anæsthetic.

3. *Sigmoidoscopic Examination.* Sigmoidoscopic examination may disclose a sigmoid growth beyond reach of the finger or may give evidence of colitis. More information of the normal appearances is obtained if this is done without preliminary bowel wash-outs. Injury to the sodden bowel wall in the vicinity of a growth with resulting perforation has occurred, particularly if the bowel is vigorously inflated and the examination made under a general anæsthetic. In most cases an anæsthetic is not necessary. Portions of a doubtful growth or ulcer may be removed through the sigmoidoscope and the diagnosis established by microscopical examination.

4. *X Ray Examination.* Radiograms of the colon require much experience for their interpretation. The appearances are often deceptive and in the same patient at different examinations may vary considerably. Where any suspicion of obstruction exists, an opaque enema should first be given and films taken, because barium emulsion given by the mouth may become inspissated in its passage along the bowel and become impacted. An opaque enema usually gives more information than a meal, but the combination of both is even more informative. It is important to posture the patient and also to take oblique views, particularly to show the flexures and the sigmoid where loops of bowel overlap.

5. *Laparotomy.* Finally, where reasonable doubt exists on clinical grounds, laparotomy should be advised, even when the special investigations fail to disclose a definite lesion. There is a tendency to lean too heavily on the radiologist and expect him to take the responsibility of making the final decision which should be made by the clinician after taking all the facts into consideration.

THE RECTUM.

In addition to the foregoing remarks on the large intestine generally, some special points in connexion with the disease as it affects the rectum may be referred to.

Symptoms.

The three chief symptoms are pain, bleeding and interference with the normal bowel function.

Pain.

Upper rectal growths will present somewhat similar symptoms to those of the lower sigmoid. Local pain is a late symptom owing to the absence of sensibility of pain in this situation and it occurs only when well marked invasion of the rectal wall or beyond has taken place. The anal canal, however, is, fortunately for all of us, endowed with great sensibility, for example, the tortures of an anal fissure or thrombosed pile. Uncomplicated piles are not painful. The pain of a lower rectal carcinoma may be referred to the site of the growth or to the sacral, pelvic or perineal regions. If the pain is referred to the posterior aspect of the thighs supplied by the sacral nerves, sciatica may be diagnosed. Lower rectal pain and other rectal symptoms are also sometimes met with in cases of carcinoma of the prostate, but very rarely so in simple enlargement.

Tenesmus, frequent teasing "diarrhœa," chiefly characterized by mucus, sometimes by bleeding, and a feeling of incomplete emptying and satisfaction may be met with, particularly in lower rectal growths.

Bleeding.

Bleeding is a common symptom, but until persistent or repeated is often disregarded as being of serious import and ascribed as due to piles. Piles and a carcinoma higher up in the canal may, however, coexist and a careful rectal examination should precede any operative or other treatment of piles. One should be particularly suspicious of piles which develop for the first time in a patient of the cancer age. Bleeding from piles is not intimately connected with the stool and tends to "spatter" the inside of the receptacle when the bowels act.

Interference with Bowel Function.

In high growths progressive difficulty with the bowels may occur, either constipation or diarrhœa or both. Mucous discharge is always suspicious and usually worse when the patient is up and about. The accumulation of discharge in the rectum overnight may produce "morning diarrhœa." Alterations in the size and shape of the stools may be noted, but patients' statements regarding these may sometimes be misleading and should be accepted with reserve.

Examination of the Patient.

For most patients, especially females, the Sim's or left lateral position with the patient lying obliquely across the couch is most convenient. The presence of piles may be determined by asking the patient to strain down, with due precautions, and assisting with the fingers the eversion of the anal mucous membrane.

Digital examination will usually be the first method of examination. It is still too often true that owing to neglect of this examination many carcinomata of the rectum within reach of the finger are not diagnosed till they are inoperable. A well lubricated but otherwise unprotected finger gives more information than when a rubber glove is used. One may feel either a fungating growth, tending to bleed readily, or an ulcer characterized by the hardness of its edge, which is raised above the level of the adjacent mucous membrane. Roughly speaking, it may be said that an ulcer which extends half way round the circumference of the bowel has been present for six months, and one all the way round for twelve months. Uncomplicated piles are never hard and cannot be felt

on digital examination. The normal cervix felt through the anterior rectal wall has been mistaken for a rectal growth.

In regard to instrumental examination, a well lubricated, warmed, conical speculum of the Lockhart Mummery type with a lateral opening readily permits inspection of the anal canal. A headlight is of much assistance. The longer proctoscope or sigmoidoscope will be needed to inspect the upper part of the rectum.

When the diagnosis is still in doubt after the lesion has been felt with the finger and seen through the proctoscope, a portion of the suspected tissue should be removed for microscopical examination. The Wassermann test should also be carried out, but it should not be necessary to emphasize that a positive reaction does not exclude carcinoma.

Rectal carcinomata vary much in their rate of growth. Some are very slow, while others of high malignancy are sometimes met with at an early age. In one year three such patients under the age of thirty were in hospital at the same time.

VICTOR HURLEY,
M.D., M.S. (Melb.), F.R.C.S. (Eng.).
Honorary Surgeon, Melbourne Hospital, Melbourne.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on May 21, 1930, DR. S. F. MCDONALD, the President, in the chair.

The Problem of the Pensioner.

DR. S. F. MCDONALD read a paper entitled: "The Problem of the Pensioner" (see page 745).

DR. J. P. LOWSON thanked Dr. McDonald for his paper which he considered an excellent one. He did not think he had much to add to what Dr. McDonald had said. Speaking from his own point of view, the pensioner was a very difficult person to handle. In the treatment of neurotic conditions all patients were at times tempted to evade the doctor, but whereas the private patient who spent an hour in evasion was in effect fined for doing so, since he had to pay for the hour which he had wasted, the pensioner lost nothing by such evasion and might gain by it when he was in receipt of treatment allowance. It was often in fact to his advantage that treatment should be lengthy. With regard to functional blindness, his experience had certainly made him more sceptical of such cases than he used to be. Functional blindness was a rare condition. He had seen only seven or eight cases. He had not been sure that none of the men had been malingering and five out of the eight had admitted it. On the other hand, he had seen complete functional deafness of the most genuine sort, and if an inhibition could come down on the auditory apparatus, there was no reason in principle why one should not come down on the visual. Perhaps his experience had been unfortunate.

He wished to congratulate Dr. McDonald.

DR. EUSTACE RUSSELL congratulated Dr. McDonald very much on the wonderful detail he had compressed into a small space of time. Dr. Russell thought he had had a lot of experience in dealing with the military pensioner and he felt optimistic. Recently he had been very much impressed with the great care taken and with the details of the records, and probably there was nothing better than the papers put before the assessment tribunal on which Dr. Russell sat. When he had been on the Pensions Board there had been very little detail to guide the members and it had been difficult to assess disability, but they found most of the cases were genuine, and this made matters easier. Both members of the Pensions Board had been in hospital for some months in England and so had a fair idea of the psychology of the wounded soldier and of their own psychology, and so could sympathize with the soldiers. There were many things in the paper to discuss, but discussion would take too long. The matter formed an interesting psychological and economic problem.

DR. ALEX MURPHY thanked Dr. McDonald for his paper. The annual war pensions expenditure was stated to be ten millions. The Australian Imperial Force consisted approximately of 300,000 men. This meant an annual expenditure of roughly £35 for each man who had gone overseas. This seemed a huge sum. He agreed with the view that economic conditions caused an increase in the number of applicants for pensions. Two matters he considered needed attention. The Entitlement Board consisted entirely of laymen, which was wrong. The Appeal Boards, which were really higher courts of appeal and consisted of medical men with special knowledge, could recommend increase but not reduction of pensions. If this were altered so that the Appeal Boards had power in both directions, expense would be reduced, as probably only men with genuine physical grounds would appeal. With regard to radiography, he thought that radiographers were prone to make too much of small amounts of fibrosis and that often a great deal of harm was done psychologically by this.

DR. F. B. MCCANN said that he had thought that Dr. McDonald had intended to speak on pensions in general. The same points cropped up in many ways and the rush was greater on account of the economic conditions; it behoved them to be more careful. He agreed that mild fibrosis diagnosed by the use of X rays, with little other corroborating evidence, had produced a lot of invalids, whereas there had probably been very little requiring treatment.

DR. E. S. MEYERS, after having congratulated Dr. McDonald, said that he would have liked to have seen figures showing the relationships of the number of Repatriation "hospital birds" to the number of pensioners. He pointed out with regard to the ability of the pensioner to work, that on assessment tribunals the business was to estimate a man's capacity to work and if the tribunal were not able to do this, the man could not be blamed and should be given the benefit of the doubt. He felt that he should support any efforts made on behalf of the men with whom he had lived and worked. Therefore he did not agree with the view about permanent pensions. He thought the men should get permanent pensions. He thought gassed patients were most important. There were not many medical men on the board who had had experience in this; most gassings had been towards the end of 1918 and in twelve hours on one occasion eight hundred men had been evacuated. He considered that one who had been present on such occasions and knew the conditions, should be on the board. He did not think the question of expense should be considered; the soldier went away with certain promises made to him and those promises should be kept whether it cost thirty-three million or fifty million pounds. He thought the question of deficiency diseases had not been gone into sufficiently.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been elected a member of the Victorian Branch of the British Medical Association:

Orton, Robert Hamilton, M.B., B.S., 1930 (Univ. Melbourne), 68, Pasley Street, South Yarra, S.E.1.

Congresses.

THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

By OUR SPECIAL CORRESPONDENT.

THE TWENTIETH MEETING OF THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE was held in Brisbane during the week commencing May 28, 1930, the President-Elect being Mr. E. C. Andrews, Government Geologist of New South Wales.

The congress as usual was well attended, the majority of its sixteen sections presenting full programmes. The range of subjects is remarkable, including pure sciences such as mathematics and chemistry, and on the other hand such general applications of science as history, economics, statistics and social science, engineering and architecture, and even education, psychology and philosophy.

The influence of individual scientists shows itself in the strong following of certain sections, such as geology, to which Professor David gave such inspiration, and geography and oceanography, reorganized by Professor Griffith Taylor who is now in America. Professor Edgeworth David attended the meeting, perhaps the only representative who was present at the first science congress held in 1888 at Sydney.

Even in 1888 ten sections were adopted, including one since defunct—Literature and the Fine Arts! The trend of science is well shown by the process of fission to which certain of these sections have been subjected, Biology dividing into Zoology, Botany, Physiology and Experimental Biology, and Literature and the Fine Arts being replaced by Education and History, while applied sciences, such as agriculture and forestry, veterinary science and pharmaceutical science, have been added by the process of accretion.

The Section of Sanitary Science and Hygiene has been in recent years renamed in more accordance with its widened scope, Medical Science and National Health. In 1888, the first President, Dr. Joseph Bancroft, of Brisbane, delivered an address on the various hygienic aspects of Australian life, a general review of the whole position of medical and sanitary affairs at the time. It is both a matter of praise for Dr. Bancroft and of criticism of ourselves that many of the problems which he raised, tropical housing, town planning, milk supply, house flies and typhoid fever, disposal of wastes, still remain the problems of today over which at best but partial control has been gained.

As at our medical congresses, the great difficulty is to hear the papers which one is interested in, as so often every section presents its presidential address and very important papers early in the session. The two most interesting sections from the medical point of view are those of Medical Science and National Health, and Physiology and Experimental Biology, which were, unfortunately, not as well supported as usual. The fact that a post-graduate course, arranged by the Queensland Branch of the British Medical Association in Brisbane, unfortunately synchronized with the congress accounted in part for the small attendance of the medical profession.

Interesting papers of medical interest were also given in the Section of Veterinary Science and many matters of general interest handled at the congress. As a matter of organization the work of the Section of Economics, Statistics and Social Science stood out, their session being not only well attended and well supplied with papers, but a symposium on the subject of transport was arranged to which four full days were devoted, and most valuable treatment given of urgent problems in Australia today of transport control, rail and road competition, shipping and air transport *et cetera*. It was an idea which might well be copied in our own medical congress.

Before the meeting of the congress a conference was held at the Statistician's Office, representing the various States, with the Commonwealth Statistician as chairman.

The report of the conference will not be available until after submission to the respective cabinets, but it is interesting to note that the amended classification of causes of death recently revised by the International Conference of Statisticians was recommended to be adopted in 1931. Progress has been made also towards the registration of still-births in certain of the States.

As was to be expected, great regret was expressed at the postponement of the census which should have been held at the end of the ten years in 1931. Its postponement until 1933 is all the more to be deprecated when the considered opinion of statisticians is in favour of a five-yearly census, so rapid are the changes and so difficult the collection of adequate data.

Anthropology.

Anthropology in recent years has changed over from physical anthropology to an increased interest in social anthropology and applied psychology.

Professor Radcliffe Brown, of the University of Sydney, discussed the influence of civilization on native races, a subject of great importance wherever the white man's burden falls to the lot of the British race.

The attitude of peoples in India or Africa to a relatively despotic control is one of serious importance to the Empire and to Australia. Social anthropology seeks to formulate the general laws of the phenomena of culture by civilization and hence deals with man's life and society, with social organization of social institutions, customs and peoples, much as chemistry deals with chemical phenomena. It is these collective activities of groups that make up so much of the life of a people.

People must possess social "integration," and the function of any element of a culture, a rule of morality, a legal obligation, a religious ritual, is to be found by considering what part it plays in this social integration. Social change consists either of integration or disintegration; the most important difference between backward and advanced cultures is the more extensive and enormously more complex structure of the latter as the result of social evolution.

Failures in integration in society show themselves in many forms, such as an increased rate of suicide, increase in neurosis and certain forms of criminality *et cetera*, and sometmes a decrease in the rate of natural increase in a population.

The control and education of any backward people means an attempt to change their form of social integration. To destroy or weaken existing structure without replacing it by some more effective and stable organization means social disintegration. War, as in places like New Guinea, helps to maintain the cohesion of the village just as it affects the solidarity of our own empire. The prohibition of little wars in New Guinea is now practised, though cohesion of these small groups may thus be weakened.

The social structure of backward peoples is much affected by kinship on which are based important groups that control the whole life, social, moral, religious and economic, of its members. It is only by skilled systematic investigation that the real nature of this grouping can be ascertained, and the contact with the white man, whether missionary, trader or official, tends to disintegrate these groups, and the danger is that such disintegration might be more rapid than the reintegration into a new structure of society.

Control of backward peoples thus primarily depends on the existing social structure and on the relation which the function of various institutions, customs and belief have to social integration. The reunderstanding of what has taken place is an essential guide for the administration. In the same way education, regarded as a process of training for adaptation to social life, must be guided by a real understanding of the social order concerned. Western systems of education may be tragically unsuitable to native peoples.

Professor Radcliffe Brown emphasized the value of science for the future control of this social force. Just as the physical sciences have given us increased power over physical forces, so the application of scientific methods to the study of human life will result in a similar command over social forces. The art of government in the future will have to rest more and more on applied anthropology.

The same theme of a ruthless destruction of tribal laws, customs and associations, and of the whole social fabric before the clash with civilization, was discussed by the Chief Protector of Aborigines in Queensland, MR. BLEAKLEY. He discussed the possible methods of preventing the final destruction of the Australian aboriginal race. Segregation under protective supervision with a retention wherever possible of their own tribal life, without interference, was advocated, the idea of a native state, though constantly put forward by many well-meaning people, overlooks the fact that native laws and customs cannot conceive

of anything in the nature of a federation of tribes, but that each tribe is a separate entity and must be treated as such.

The first essential is to win the trust and confidence of the native race. Where the tribe has been broken up, a fresh life must be built up under congenial and natural conditions. It is principally through the child that the education for more civilized life might be given.

Although ruthless killing has been blamed, the chief failure has been the neglect to understand these people properly, and to protect them from abuse and exploitation. The three stages of extermination have been encroachment of their hunting grounds with marked reduction of natural food resources, the devastating effects of diseases and civilized fights and the complete disintegration of the tribal life. The most difficult problem of all is the cross breeds and the checking of their increase.

Adaptation to civilized life is not, however, impossible, and one or two successful native settlements are in existence which preserve their ancient methods of building together with many of their customs, dances and songs. Under these protective conditions natives made gratifying increase and families of four or five children are not rare.

The statistics quoted showed an increase in a population of full-blooded aborigines in Queensland, New South Wales, South Australia, with stationary populations in Victoria, Western Australia and the Northern Territory. These are shown in the accompanying table:

STATE.	PERIOD.	
	1927.	1929.
Queensland	13,523	14,177
New South Wales	964	1,234
Victoria	56	53
South Australia	2,149	2,630
Western Australia	22,995	22,916
Northern Territory	20,258	20,791

It is of interest to note that in the course for the Diploma of Anthropology in the University of Sydney administrative officers of the Mandated Territories are trained so as to give a scientific background to native administration, and that the Rockefeller Foundation has granted £2,500 a year for anthropological research chiefly concerning the aborigines of Australia, whether in north Queensland, Northern Territory, Western Australia or South Australia. Research work is controlled by the Committee of Anthropological Research of the Australian National Research Council.

A very interesting exhibit in the section was that of Dr. Cilento, Director of the Division of Tropical Hygiene of the Commonwealth Department of Health. Skulls were exhibited showing successful trephine operations in New Guinea, and also the striking deformities due to head binding. Dr. Cilento pointed out the association of the development of Wormian bones in the skull sutures with the incidence of this artificial pressure.

A Micro-Balance.

Professor Hartung, in the Chemistry Section, drew attention to the important work done by Dr. Steele and Dr. Kerr-Grant in their invention of the Steele-Grant micro-balance which is an extremely delicate instrument consisting of a thin rod of fused quartz balanced on a knife edge to which is attached a small mirror throwing a spot of light which moves over a scale and is able to measure a change of one-millionth of a milligramme in one hundred milligrammes. It is possible with this to measure the extremely small loss of weight which occurs in radium by its constant emission of radiation and is the only instrument known which can attack the problem. It has been used for researches into the radio-active substances which are available only in minute quantities.

Man and His Environment.

It was interesting to note in the Geography Section the stress laid on the reaction of man to environmental influence and the influence of environment on migration and other human activities. The importance of the natural regions was emphasized. It may be remembered that considerable attention was drawn at the Australasian Medical Congress (British Medical Association), Dunedin, to the association of such natural regions with the development of goitre and more recent years in the journal to the geographical distribution of trachoma.

School Medical Inspection in New South Wales.

In his presidential address on the changing conception of education, the Director of the New South Wales Education Department, Mr. S. H. Smith, gave a philosophical treatment of the progress of education. He drew attention to its increased specialization, especially in England, and the part played by the home and by cultural machinery, such as religious bodies, craft guilds *et cetera*. In the last forty years the essentials of psychology have distinctly affected educational organization, and more and more scientific method is being applied to the investigation of educational problems. Mr. Smith drew special attention to two important developments in connexion with the schools of New South Wales, namely, the School Medical Services and the evolution of the Vocational Guidance Bureau with its psychological laboratory, and arising out of the former increased attention to health teaching in the schools, to open-air schools, and the education of subnormal children. He pointed out that the medical examination of every child is carried out in New South Wales approximately once every three years in schools in the country districts. In schools in the metropolitan area the system observed provides for the complete examination of every child twice during its school life, namely, on entering and leaving, with review examinations, where necessary, in the meantime. Parents and teachers are notified of any defects found and, after an interval of six to eight weeks, the teacher reports to the Medical Service what action has been taken by the parents in obtaining treatment. If the parents have not followed the medical officers' advice, a more urgent (second) notice is sent to the home, or, in the case of metropolitan schools, the parent and home are visited by a school nurse.

During 1928 the medical officers fully examined 76,988 children; 48·11% of these were notified of the need for treatment, and 50·58% (18,733 pupils) of those notified obtained treatment. In addition, 24,927 children were "reviewed" in accordance with the metropolitan system, and of these 37·94% were notified of the need for treatment, and 44·56% (4,214) of those notified were treated.

In the same year three departmental oculists visited rural schools and treated 1,179 children, carrying out treatment for eyelid conditions and refractions.

By means of eleven travelling dental clinics, treatment was provided for 15,467 children in country areas, and 6,785 children at the two dental clinics (one attached to the Out-Patient Department of the Royal Alexandra Hospital for Children) in the metropolis.

Health supervision, together with a brief lecture course on personal and sex hygiene, is carried out in girls' high schools by a woman medical officer.

Other medical officers are in charge of the teaching of hygiene at teachers' colleges, where every student attends a course of about twenty-four lectures.

The medical and mental examination of children appearing before the Children's Court, and an intensive campaign designed to eradicate hookworm disease from the affected parts of the State, are also undertaken by school medical officers, as also is the medical supervision of children resident at Glenfield Special School.

Mental Measurement of Deaf Children.

Mr. Holle, of the Blind, Deaf and Dumb School, Brisbane, stated that mental measurement had shown that deaf children were retarded two years mentally between the ages of eight and twenty-one years. In education ability, on the other hand, as compared with hearing children, they

were on the average retarded five years owing to the marked language incapacity which mutism represents. The means of receiving impressions of exact thought during the period of mental growth are so interfered with as to influence the whole educational progress of the child. It is asserted that the deaf mute has a relatively smaller head as a result of the inhibition of brain growth due to congenital deafness. Language is the key to the whole problem of the education of the deaf, and its absence confines the deaf child to a limited world of his own. Concentration must be on the acquisition of language and the ability to understand the printed or written word.

Educational Research.

Mr. A. J. Schultz in his paper on educational research deprecated the modern emphasis on the claims of the physical and scientific as opposed to more philosophical and introspective studies of education. He contended that we cannot know the mental processes of others except indirectly on the basis of introspection.

Speakers to this paper seemed to consider that we have by no means reached a limit, and in fact that we are only beginning to give to scientific treatment of mental development the importance that it deserved.

The Historical Section.

The Historical Section, though it presented a very strong programme under the chairmanship of Professor Scott, in the absence of the President, Professor Elder, presented little of medical interest. Professor Cumbrae Stewart pointed out that contrary to popular belief, the Queensland Government cannot exercise domination over the surrounding seas in spite of its annexation of islands within sixty miles of the coast; the contention that the sea, like the land, was the subject of private domination was unsound according to international law. It was doubtful, for example, whether other nations could be excluded from fishing within the territorial limits of the Great Barrier Reef.

More especially interesting was a paper by Miss Tomkeys concerning immigration in Queensland during the last 40 years of last century. It dealt with the whole question of the coloured races, showing how from 1859 to 1869 no restriction existed, from 1869 to 1883 Kanakas and Chinese were excluded, and from 1883 onwards there was a virtual exclusion of all coloured races. Kanakas were first introduced in 1863 on the Logan River for cotton plantations, and were attracted to sugar cultivation with which they were associated for forty years. At first an attempt was made to confine their work in field labour to tropical agriculture. Their entry was prohibited after 1890, and after 1901 Kanakas were repatriated. The Chinese were attracted by the goldfields, and in 1887 outnumbered Europeans in the north by over ten to one. In the 'nineties Japanese and Javanese appeared, and this stimulated the desire for a white Australia which was made effective by the Commonwealth *Immigration Restriction Act* of 1901.

Professor Alcock discussed history as a subject of study in secondary schools and universities, and urged the necessity for a more satisfactory standard and the services of trained teachers in special subjects for secondary schools.

Dr. Harvey Sutton, speaking to this paper, called attention to the failure of many of the textbooks used to give any adequate significance to events which had had a tremendous influence on the world, such as the Great Plague of 1348, which reduced the population of England to one-half and which it took 150 years to recover to the previous numbers, the development of utilitarian philosophy, "the greatest good to the greatest number," by Jeremy Benthem in 1776, a principle which was laid as the basis of all modern effort, and the great increase in population which raised the numbers in England from seven millions in 1750 to forty millions a century later, and which had so profound a significance with regard to industrialization and urbanization of the population. He advocated that the history of public health should receive a real place in the study of human progress.

Mechanism and Vitalism.

Professor Agar's presidential address in the Section of Physiology and Experimental Biology dealt with the subject of "Mechanism and Vitalism in Biology," a study of fundamental interest dealt with from the viewpoint of the biologist. As examples of the type of phenomena to be discussed he instanced Haldane's study of respiration and its regulation in the face of changing internal conditions. Driesch's embryos in which the cells after disarrangement in early development sort themselves out and produce normal individuals and regeneration, such as the growth of a new lens in a newt's eye after removal, where the original ectodermic lens is replaced by a lens formed from the mesoderm. Leaving out heredity and evolution, these life processes, coordination, regulation, embryogenesis and regeneration, usually the field of the biologist, show, Dr. Agar claims, fundamental identity with behaviour (the activities of the organism as a whole as an individual in relation to the external world), whether instinctive, intelligent, rational *et cetera*, and accompanied by consciousness.

Were the activities of the organism nothing more than the sum total of the separate activities of all its parts with transfer of energy from one part to another, it might be called a machine or physico-chemical system or mechanism. But this idea does not account for its purposefulness, for example, the relation between stimulus and reaction.

Dr. Agar reviewed some of these systems, the emergent evolution of Lloyd Morgan and Alexander with its hierarchies of ascending order of complexity: space-time, matter, life, mind and deity. Life represents here a quality not merely possessed by non-living matter, but emerging from it as new.

Haldane rejects both mechanism and vitalism, insisting that the characteristic feature of the living body is the delicate coordination and regulation of physico-chemical forces, a property inherent in the organism itself.

This idea of organism and organization is the scientific attitude of today.

An organism has an existence in its own right, not merely as the sum of its parts, possessing too a primacy which causes the parts to conform to the nature of the organism.

Haldane considers that organic life expresses coordination or unity in space, consciousness involves unity in time also, but the separation of living from non-living, Agar states, does concern precisely those actions in which the time factor seems involved, for example, in the long series of preliminary processes resulting in a future goal, the restitution of a lost part. He considers the great break is between living and non-living, that no fundamental distinction exists between vital processes and behaviour. Some consider this psycho-vitalism as a kind of animism.

That mind is not associated solely with actions of the type of conscious behaviour nor solely with the brain, nor even with nervous tissue, can be supported on the following grounds.

Nerve tissue, or the individual nerve cell, is not fundamentally different from any other cell. Either in embryonic development or evolutionary origin in comparative anatomy it gradually differentiates out of a generalized cell type.

The single cell, such as an amœba, receives stimuli, conducts them from one part of the cell to another, and reacts to them. It apparently perceives and certainly pursues its food and withdraws from harmful stimuli. In some multicellular forms each cell performs all functions. Only later in development do certain cells specialize in function and digestive muscle and nerve cells appear. In higher animals markedly specialized cells still retain in minor degree the general functions of the single cell.

If the behaviour of man or higher animals involves mind, it seems impossible to exclude it from the behaviour of an amœba. Jennings writes: "If amœba were a large animal so as to come within the everyday experience of human beings, its behaviour would at once call forth the attribution to it of states of pleasure and pain, of hunger, desire and the like, on precisely the same basis as we attribute these things to the dog. If we allow mind to

amœba, we cannot exclude it from embryonic cells or, say, renal cells of a higher animal. As a matter of observation we may deny these cells display any evidence of possessing minds, but if activities suggest it, it is not an absurd suggestion."

The expression "the cell has a mind" means merely that the reception by the cell of a stimulus sets up processes in the cell, related to its resulting activities as the events set going in the brain by the reception of a stimulus bear to the resulting behaviour, and these we know have a mental aspect.

Brain and nervous system are therefore not essential to mind or even consciousness, but only to the integrated and enduring self-consciousness of a multicellular organism. This idea is distinct from the metaphysical conception of a "guiding force" in vital processes, but unless consciousness accompanying instinctive behaviour is an epiphenomenon, this position does imply cell consciousness.

Two modern theories, one biological, the other psychological in origin, may be quoted. Child explains the unity of the organism by the metabolic gradient, the active metabolic centre dominates the less active, usually a high centre of activity at the front end follows an axial gradient of falling metabolic activity from head to tail.

In regeneration the stimulus is the wound, the reaction the formation of a new organ, a reaction not to the stimulus, but rather to the situation lack of the organ removed. Even in reflex action, which is often almost mechanical, the dog, for example, starts at a sound, but to the squeak of a rat the response is not to the sound, but to the rat, which is what the sound means to the dog.

Regeneration differs from instinctive behaviour, for while the latter is recurrent in each generation, regeneration may be a novelty. The three possibilities are mechanism, vitalism—an immaterial non-spatial force independent of inorganic phenomena—or organicism (somewhat allied to Smuts's "holism"), an intermediate attitude, life having a status of its own, neither mechanistic nor psychic.

Matter, life and mind are regarded by some as having the same fundamental qualities, differing only in differing emphasis by others as an ascending series, each including the qualities of the lower member, but involving an entirely new quality different in kind. Haldane sees a wider break between "mere life" and conscious life than between life and matter.

Others still draw the principal distinction between matter and life, considering that all life is accompanied by mind. Regeneration in Planaria illustrates this. This little freshwater flat worm has a head at the front end and a protrusible pharynx about the middle. When it is cut in two just behind the pharynx, a new head forms at the front end of the hinder part. A normal gradient is then established, and its dominant action causes the old tissues to reorganize into a complete new (and young) animal. A new pharynx forms and finally a complete animal of half size.

Santos, 1929, demonstrated the dominant influence of the new head by cutting off the head of one planarian and grafting it on the hind end of another, producing an animal with a head at both ends. The reorganization produced by this new head forms a new pharynx, and we get two animals joined at their hind ends, the size of the heads determining the neutral joint.

Even a head of species A grafted on the hind end of species B will organize for itself a new body out of the hinder end of B. The gradient of metabolic activity from apex to base has been shown by actual measurement of oxidation and reduction sensitivity to poison, electric potential differences *et cetera*.

Behaviour also must be included. In the amœba the gradient apex is at the pseudopodium, but is temporary and reversible and a new pseudopodium with new gradient may be established. In the embryo gradients are permanent, leaving permanent alterations of the cell.

In the spore of the alga fucus germination begins with elongation of the spherical spore. External influence, such as illumination on one side only, may determine the direction of this long axis setting up a gradient irreversible in type as distinguished from the amœba in which gradients leave no permanent traces and differentiation.

Thus unbroken continuity is established between the behaviour of higher animals and amœba, the metabolic gradient supplying a common factor in the behaviour of amœba and embryonic development, regeneration and similar life processes. Embryonic development is petrified behaviour.

The psychological aspect as shown in the Gestalt system grew out of an attempt to explain visual perception of movement and developed into a general theory of the nature of neurological processes and their relation to mental phenomena.

For instance, perception is not compounded out of sensations, but is a primary fact; compare a baby's recognition of its mother. The physical process in the brain corresponding to perception, even of a complex object, is not compounded out of local neural excitations connected by association paths, but has the character of a configuration, that is, of a whole of an organism. The analogy with the living organism is obvious, for the organism exists only as a whole and ceases to exist when analysed into its constituent parts.

The distinctive characteristics of living organisms become only the characteristics of physico-chemical configurations and occur also in non-living system. Mechanism is thus eliminated as a special problem in biology, and is eliminated from the non-living world. Vitalism also vanishes, for the characteristics of living organisms are found even in non-living.

Instincts are inborn types. The wasp stocking its nest with paralysed spinders is the expression of a configuration. With the presence of part of the configuration (the perception of a spider) the total configuration tends to close itself by completing the instinctive train of actions.

Educability and intelligence are closely related to size and complexity of brain (for example, in mammals). Instinct does not share this obvious relation to brain size.

The brain seems preeminently the organ for forming new configurations, though probably all living units have some capacity for this.

What is the importance of the general problem to the biologist? Regeneration of a lens or a conscious act, such as writing a letter, may be explained in two ways: First, the objective detailing the exact process; second, the description in physico-chemical terms of the action. These are irrespective of theory.

In addition, a different aspect appears confirmed by introspection. The conscious act is not a mechanical series, but a whole directed forwards towards the end result, and if we accept the fundamental identity of vital processes and behaviour, we may interpret the lens regeneration similarly. If the idea of purposefulness is deceptive or the feeling accompanies and does not cause the action, in that case it vanishes from life processes. The parallelism between mechanistic and behaviourism and discussions may be compared.

When we place vital processes and conscious behaviour in the same category, we do so because these experiments appear to justify it. The only attitude implied is that the relation between stimulus, physico-chemical processes in the brain, and conscious behaviour are of the same nature as the relation between stimulus, physico-chemical processes in the cells and their reaction in such phenomena as regulation or regeneration. The principle of trial and error may adapt innate types of behaviour to the details of the particular system. Comparison of vital processes with behaviourism of a type from which consciousness is postulated has been rejected, but unjustifiably.

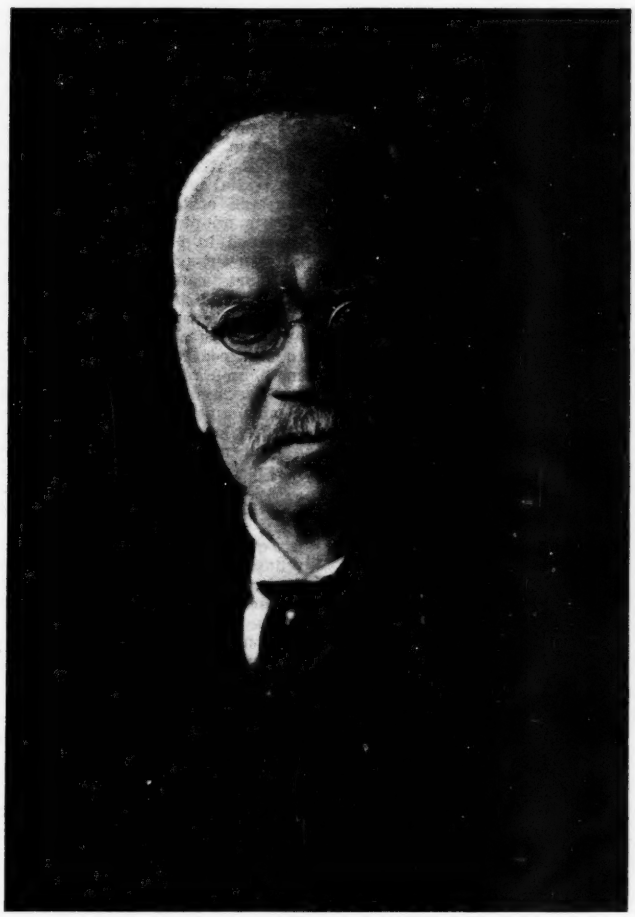
Obituary.

JOHN MILDRED CREED.

BY the death of Dr. John Mildred Creed, recorded in the issue of November 8, 1930, one of the links with medical practice of earlier days has been severed and Australian medicine has lost one of its keenest and most

discerning intellects. Latter day practitioners knew him but little—with advancing years he withdrew himself from gatherings of medical men and gave more and more of his attention to political matters. In the earlier days he was an active medical practitioner and by his journalistic work served his day and generation.

John Mildred Creed was born on November 21, 1842, on a farm owned by his parents at Ashbrook, near Cirencester, Gloucestershire, England. His father, John Creed, sent him to Kingsdown School, Bristol, and at the age of sixteen he was apprenticed to a London surgeon for three years. In 1861 he left England for Australia with his parents on the sailing ship *Prince of Wales* and landed at Melbourne. The family went to Yan Yean and Creed went to a sheep station near Corowa in the Riverina district, New South Wales. After a visit to a vineyard belonging to a relative, he became a jackeroo at the station of his uncle, John Sanger. The call of medicine was too strong for him and he forsook pastoral life. After a period of twelve months he returned to England by way of Cape Horn, the voyage taking ninety days. He entered University College as a medical student and in 1866 became a diplomate of the Royal College of Surgeons of England and the Royal College of Physicians of Edinburgh.



After graduation Creed returned to Australia. He travelled by the ship *Anglesey*. After arrival in Melbourne he took charge of a large practice in Melbourne for a time and then came to Sydney as resident physician at the Sydney Infirmary. Shortly after this the South Australian Government organized an exploring expedition to the Northern Territory. Creed was invited to become medical officer to the expedition and accepted. This was in 1867 and 1868. He was subsequently invited to visit the Hunter River District. Medical men were scarce in those days and Creed was pursuaded to settle in Scone, where he remained for fourteen years. He was elected to Parliament as member for the Upper Hunter District in 1872. From this time onwards he took an interest in the public life of the community and contributed not a little to the common weal. His public services were carried out often at the expense of private enterprise and his sacrifice was a real one. In 1882 he left Scone and came to Sydney. In 1883 he was elected Honorary Surgeon to Sydney Hospital. Soon after his arrival in Sydney in 1882 he became editor of the *Australasian Medical Gazette*. His journalism was characterized by honesty and forcefulness. His knowledge of men, of things and of letters stood him in stead in this work. He took a prominent part in the corporate life of the medical profession and this at a time when associations and societies were not so well organized as they are today, when there was not the same stimulus as at present, but when the need was probably more apparent. For a time Creed was Secretary to the New South Wales Branch of the British Medical Association and he had the honour of filling the office of President on two occasions—in 1887 and 1892. He was Vice-President of the Australasian Medical Congress on three occasions—at the Adelaide gathering in 1887, at Melbourne in 1889 and at Sydney in 1892.

As already pointed out, Creed was always interested in affairs of State and took an active part in parliamentary matters. He was appointed to the Legislative Council in 1885 and from that time onwards was prominent in its deliberations. He will possibly be remembered most for his advocacy of cremation, for he was largely responsible for the introduction in 1886 of the bill to regulate it. He also played a prominent part in the legislation introduced in 1900 for the care and control of inebriates. In 1915 he published a book: "My Recollections of Australia and Elsewhere." He wrote many articles on medical subjects. He was an ardent advocate of the use of hypnotism in the treatment of chronic alcoholism.

Creed's interests apart from his professional and parliamentary life were centred in literature. His tastes were cosmopolitan, his knowledge was correspondingly deep. He stuck to fact, however, and scorned fiction. To him life was "real" and "earnest." He could discuss any subject at a moment's notice and his knowledge was not superficial. His intensity alone might serve as an example for the junior members of the profession who knew him not. His life was full and even if he chose to give a large part of it to the service of the community in its public life, rather than to carry on with active medical practice, the result was the same, for he worked for the good of his fellow man. There can be no more fitting tribute.

A medical practitioner who knew him well, and who wishes to remain anonymous, writes:

So many years have passed since John Mildred Creed was in active practice and edited the medical journal of that time, that to most of the younger members of the profession his activities are unknown and his name is perhaps almost equally so. Yet to those of us who knew him in these earlier years, his personality and his active part in the life of the profession are unforgotten. Creed, indeed, was no ordinary man. With a good knowledge of the professional learning of his day and generation, he

possessed a forceful personality and a wide interest in many subjects. In fact, for a complete success in medicine proper he had too many side interests and, in following them, he must have often sacrificed his professional and material prospects. He had one of the quickest and most alert brains in his profession or, indeed, in the community; a keen, sometimes dangerous, but always diverting sense of humour possessed him, both in speech and writing. His editorship of the journal was competent and forceful and the writer of this little note has been told by those competent to judge that no leader writer of a big daily could so quickly compose and write a convincing, commonsense article on a given subject. Few medical men have read so widely or remembered so well that which they have read as Creed. He had his faults like other folk. He was quick tempered at times and looked angry, but behind it he had a curiously emotional strain of kindness of heart. The writer well remembers his absolutely brotherly sorrow over his coachman who, choking with a thoracic aneurysm, was scarcely relieved by a tracheotomy and the passage of a rubber tube past the obstruction. No near relation could have shown more tender kindliness than he showed on that occasion. If Creed took a matter up, rightly or wrongly, he followed it to the end with loyal perseverance. Usually these matters were "swans" and deserved all the help he gave, personally or through the press. Occasionally they were "geese" and time alone showed him they were so, but these "wrong horses" never made him otherwise than an enthusiast in his championship of causes which he believed to be right. Looking back over a long period and remembering many things about him as this little appreciation is written, the writer of it can truly say that Creed's career in Australia was no frustrate life, but rather one of usefulness and one which exerted a large and favourable influence in a number of public questions and was most surely also to the good of the profession to which he belonged.

NEVILLE REGINALD HOWSE.

SIR HENRY MAUDSLEY has forwarded the following tribute to the late Neville Reginald Howse.

Neville Howse was a man who required knowing in all his moods to be appreciated at his proper value. That knowledge might be required at the first interview or after many weeks, for deep down, not always on the surface, was a personality of high ideals, high principles, of great energy, of doggedness and courage; also a man far-seeing, almost by intuition knowing what was going to happen, a quality which enabled him in war time to prepare for events far ahead, a quality which great generals have been noted for, an innate quality, but one requiring cultivation by hard work and thought. My first meeting with Howse was in Egypt in 1915, before Gallipoli, though by reputation he was already well known as a most successful practitioner in New South Wales and as having had a distinguished career in the Boer War, where he gained the Victoria Cross. In June, 1915, I again saw him when he came down from Gallipoli to see me, emaciated and jaundiced from an attack of dysentery. He refused to be invalided and returned to the front in a few days.

My next acquaintance with him was in November and we went in the same ship to Gallipoli, and in the two days I obtained a knowledge of the real Howse, of his high ideals, his imperialism, his devotion to duty and work; this deeper part of him came to the surface and from that time we were friends.

Howse, the son of a doctor who was in the Crimean War, had read much of the campaigns of the great masters of war, and when he went to South Africa had a knowledge of war not expected of a practitioner who had received no training in military medicine and, being possessed of a personality which enabled him to apply his knowledge and the staying power, physical and mental, which enabled him to work sixteen to eighteen hours a day with five or six hours' sleep, untiring industry and organizing power, he showed his administrative skill in that campaign.

In the interval between this war and the Great War he continued his military studies in the time left to him in a very busy practice and, when put to the test, he developed into one of the best of directors of medical service. He was a master of principles and of details, leaving very little to chance; a keen judge of the meaning of events, with a foresight which seemed uncanny intuition, but was the result of hard thought and hard work. He was a keen judge of men and had that quality of getting the very best out of them. Modest he was in his dealings with men, but firm and determined when he had made his decision. His qualities were such that he made rapid progress and after his appointment justified the authorities in their choice of him as Director of Medical Services, as he was one of the best Directors of Medical Services in the war. Whence this phenomenon? The story of Howse from a student was the story of his personality, his determination and his courage.

He left London Hospital so soon as he qualified, settled in New South Wales, built up a practice and nine years afterwards returned to London to work at the London Hospital, took the fellowship in one year, was house surgeon to the hospital for two years, with fellows seven or eight years younger, full of enthusiasm, energy and judgement, to which his experience of life gained in Australia contributed, and he might easily have been on the staff of his beloved London Hospital, but the country of his adoption was fortunate in securing him, and he returned to practise in Orange, and his practice was not only in Orange and the country around, but patients from all parts came to consult him; and if there had been no war, he would probably have made Orange a great centre of surgical work. He was a great surgeon himself and I have no doubt he would have attracted young men to his centre. He valued much the scientific side of medicine, recognizing its importance in practice. In politics his goal was the advancement of the Commonwealth and its people in the best sense. As Minister of Health he had ever before him the advance in efficiency of the members of his profession; they existed not for themselves, but for the community, the efficiency of the State medical service and the improvement of the health, mental and bodily, of the citizens. During his term of office the cancer research was advanced, radium secured in quantity. The various commissions reported were studied and had he continued in office would have borne fruit.

As Minister of Repatriation he never spared himself in seeing that justice was done to the returned sick soldiers, personally reading the files of the records of every soldier who appealed, and forming his own opinion and consulting, if necessary, with the Advisory Board.

Though there have been opinions that the latest legislation was not wise, it remains to be seen whether, after all, this legislation may not prove to be successful in securing justice to the returned sick soldiers.

His slogan was duty and hard work and all that he did was for the improvement of the Commonwealth and its citizens. With it came esteem and honours that he appreciated. Australia lost a great citizen at his death.

CHARLES CROZIER TANDY MAGEE.

WE regret to announce the death of Dr. Charles Crozier Tandy Magee, which occurred at Melbourne, Victoria, on November 11, 1930.

Medical Practice.

MEDICAL REGISTRATION IN GREAT BRITAIN.

IN the issue of November 1, 1930, the question of medical registration in the several States of the Commonwealth was discussed in a leading article. Extracts were also given of an ordinance recently brought into force to provide for the registration of persons desirous of entering

into medical practice in the Federal Territory. The Director-General of Health of the Commonwealth has forwarded a letter received by him through the High Commissioner's Office, London. Although some of the facts have been mentioned in these pages on previous occasions, the letter is published herewith *in extenso*. It provides an additional argument in favour of registration being in the hands of one board for the Commonwealth. The letter is as follows; the information asked for in the letter has been supplied by the Director-General of Health.

General Council of Medical Education
and Registration of the United Kingdom,
44, Hallam Street,
Portland Place, London, W.1.
10th October, 1930.

The High Commissioner for Australia,
Australia House,
Strand, W.C.2.

Dear Sir,

Under the provisions of Part II of the *Medical Act*, 1886, where a practitioner shows that he holds some recognized medical diploma granted to him in one of the Dominions to which the Act applies and that he is of good character and by law entitled to practise medicine, surgery and midwifery in such Dominion, his name may be entered upon the Medical Register, and he thereupon becomes possessed of the same privileges of practice as are accorded to British registered practitioners.

The *Medical Act* of 1886 has been extended at different dates to all the States of Australia, but as this took place prior to the establishment of the Commonwealth, it has never been extended to the Commonwealth. The effect is that a practitioner who obtains the degree in medicine, for instance, of the University of Melbourne cannot be registered here unless he is registered in the State of Victoria, although he may have been registered in Western Australia in virtue of his Melbourne degree. Some of the States in Australia will only permit registration there upon a personal application and it occasionally happens that a practitioner in the position of the one I have instanced comes over here and may find that he is not able to register here because he is not registered in the State in which his degree was obtained. This results in some delay and inconvenience, and not infrequently to some expense to the practitioner concerned. If, however, the *Medical Act* of 1886 were extended to the Commonwealth, it would result in a practitioner who had qualified in one State and registered in another in virtue of that qualification being able to register here without difficulty.

I am directed by the President to ask:

(1) Whether there is medical reciprocity between the several States of the Commonwealth, and

(2) Whether it would be agreeable to the Commonwealth to request the Privy Council to apply Part II of the *Medical Act*, 1886, to the whole Commonwealth as well as to the several States.

If the answer to (2) is in the affirmative and the *Medical Act* was so extended, assuming that there is medical reciprocity between the various States of the Commonwealth, it would mean that a practitioner who obtained a qualification in one State and, although not registered in that State was registered in another State of the Commonwealth, would be entitled to registration here.

Yours faithfully,
NORMAN C. KING,
Registrar.

Public Health.

THE DUTY ON INSULIN.

THE following letter has been received by the Medical Secretary of the New South Wales Branch of the British Medical Association in reply to a letter dealing with the subject of the duty on insulin. It is published for the information of readers; it should be read in conjunction with the leading article of the issue of September 6, 1930.

Commonwealth of Australia.
Minister for Trade and Customs,
Canberra, F.C.T.
3rd October, 1930.

Dr. J. G. Hunter,
Medical Secretary,
British Medical Association,
N.S.W. Branch,
135, Macquarie Street,
Sydney, N.S.W.

Dear Sir:

With reference to your letter of 28th August, 1930, relative to the duty on Insulin I desire to inform you that it has been decided to collect as on and from 1st September, 1930, the duty payable on Insulin under Tariff Item 285 (A) 30% (British Preferential Tariff) 40% (General Tariff) which hitherto has been remitted.

Evidence obtained by my Department shows that adequate supplies of Insulin manufactured by the Commonwealth Serum Laboratories are available at a reasonable price and of a quality equal to that of the imported Insulin. The Australian Insulin has been used for some time by a number of hospitals with satisfactory results.

The following extracts from a report on the subject by the Director-General of Health are appended for your information:

> A great deal of ignorance and misunderstanding exist about the methods that are used in these Laboratories for the standardisation of Insulin to ensure that this product is of uniform strength and quality.
>
> Standardisation at these Laboratories is carried out in exact accordance with the recommendation of the special Section of the League of Nations Health Organisation, which deals with the standardisation of biological products.
>
> Samples of this international standard were received from the Medical Research Council, England, and are kept at these Laboratories and used for the purposes of direct comparison with every batch of Insulin prepared and issued from the Commonwealth Serum Laboratories. All Insulin issued from these Laboratories is therefore of standard strength expressed in terms of the standard unit, as determined by methods laid down by the Permanent Commission of Standardisation referred to above.
>
> In all respects the methods of standardisation of Insulin and the standard employed at the Commonwealth Serum Laboratories conform to the recommendations made by the League of Nations Health Organisation, and adopted by all reputable manufacturers from overseas and the product of the Commonwealth Serum Laboratories, as far as approved methods of assay can determine.
>
> The methods of manufacture of Insulin employed here agree in essential particulars with methods used by manufacturers in the United States and Great Britain, as indicated in works published in scientific journals from time to time.
>
> A few years ago one hospital, which was not using Australian Insulin, was approached and asked why they were not using the Australian product. It was alleged that our Insulin did not give as satisfactory results as the brand they were using. A medical man from that hospital, highly qualified in the use of Insulin, was asked to examine our methods of standardisation, and to test our product in comparison with that being employed. This was agreed upon, and as a result of six months' exhaustive tests with patients in the diabetic clinic of that hospital, he expressed himself as fully satisfied that our product was equal to any that he had used. The hospital placed orders immediately, and have continued to use it since.
>
> I believe that there can be little justifiable complaint, if any, of the quality of Australian Insulin.

Much of the present misunderstanding regarding variation in strength of Insulin results from the early days, when no satisfactory method of standardisation was known or employed either in Australia or other parts of the world.

Since the commencement of the manufacture of Insulin, the policy of these Laboratories has been to reduce the price in accordance with improvements in the method of production and also, most important, with increased demand. It is a well-known fact in mass production that the greater the quantity being made, the less the cost of manufacture, other factors being equal.

Australian Insulin is as cheap as the imported product in Australia, without any tariff being imposed.

The amount of Insulin issued from the Commonwealth Serum Laboratories and used every year by patients in the Commonwealth of Australia is more than double the total amount of that imported into Australia.

As a matter of experience, it has been amply demonstrated that the question of price of any product is the most powerful factor in increasing or decreasing sales of any product of these Laboratories. It is hoped that, with the increase in sale of Commonwealth Insulin, resulting from the imposition of a duty, the price of the Australian product may be further reduced to the patient. This will be beneficial both to the patient and to the community in general, and will prevent a large sum of money annually going overseas, for the Commonwealth product is made wholly from raw material obtained in Australia and by Australian labour.

In view of the foregoing I regret that I cannot exempt Insulin from the rates of duty provided under the relevant Tariff Item.

Yours faithfully,

(*Signed*) F. M. FORDE,
Assistant Minister for Trade and Customs.

APPOINTMENTS IN THE COLONIAL MEDICAL SERVICES.

A request has been received from the Director-General of Health of the Commonwealth to bring before the notice of the medical profession in Australia the fact that a system is now in operation whereby applications may be made in Australia for positions in certain of the medical services under the control of the Colonial Office. The services in question are those of East and West Africa and of the Pacific colonies.

A certain amount of information relating to these services is to be found in *The Lancet* of August 30, 1930, but more detailed information is available by application to persons specially appointed in each of the universities in Australia.

An arrangement is now in force by which a Central Committee has been appointed by the Commonwealth Government at the request of the British Government to make recommendations to the Colonial Office regarding any applications for appointment in the colonial services. This Committee consists of Sir Brudenell White (Chairman), The Honourable F. W. Eggleston, Dr. J. H. L. Cumpston, Dr. A. C. D. Rivett, Major Keith Officer, Mr. Stanley Addison (Secretary), The University, Carlton, N.3, Victoria. A local committee has been appointed in each university and also liaison officers to provide information to prospective candidates.

Prospective candidates resident in Australia should communicate with the liaison officer in their own university. They will obtain from him a form of application and will be interviewed in the first instance by the appropriate local committee. If recommended by the local committee, a candidate will be referred to the Central Secretary, who will then communicate with the persons named by the candidate as personal referees and who will make arrangements with the candidate for medical examination and for interview by the Central Committee. If recommended by the Central Committee, the candidate's name will be forwarded to the Private Secretary (Appointments) at the Colonial Office and it will be considered along with those of English applicants as and when vacancies arise.

The liaison officers in each university are as follows: *Adelaide*, Professor W. K. Hancock, Mr. C. T. Madigan (Acting); *Melbourne*, Professor K. H. Bailey; *Queensland*, Mr. M. W. Kyle; *Sydney*, Brigadier-General I. G. Mackay; *Tasmania*, Professor R. L. Dunbabin; *Western Australia*, Professor F. R. Beasley.

Information relating to the medical services in East and West Africa, Fiji and the Western Pacific is contained in special pamphlets, copies of which may be obtained from the liaison officers above named. From these officers also a pamphlet relating to appointments in the Malayan Medical Service is obtainable.

A communication has been received by the Director-General of Health from Dr. A. T. Stanton, the Principal Medical Officer of the Colonial Office, who states that he hopes that "through the special machinery which has been set up in Australia we shall soon be getting applications from Australia for the colonial medical services generally."

The colonial medical services afford an excellent opportunity for an established career, and although the salaries offered are not perhaps as large as those incomes which could be gained from successful private practice, yet the possibility of great satisfaction from successful professional work and of making material contributions to medical science is unlimited.

Correspondence.

TRACHOMA.

SIR: The most interesting comment on the present position with regard to trachoma which appeared in THE MEDICAL JOURNAL OF AUSTRALIA, for November 22, goes to the heart of the business.

The experiences of Colonel Eason and myself in Egypt caused us to take a view of trachoma, and of other medical problems, which was quite unconventional. The questions put by Dr. C. Weiss show that he is evidently thinking on the same lines.

I was Consulting Oculist in Egypt from December, 1914, to October, 1915. Colonel Eason, now Superintendent of Guy's Hospital, took my place and acted for the remainder of the war. On my return to Egypt, after being invalided, I was appointed Consulting Aurist (amongst other positions) and Colonel Eason and I collaborated throughout the war.

In a publication by Lieutenant Deane and myself, "The Australian Army Medical Corps in Egypt," some reference is made to the matter on page 92, and in a work of mine, "A Vision of the Possible," a fuller account appears on pages 105 and 106 *et sequelæ*. At the conclusion of the war Colonel Eason furnished a valuable report which was published in *Guy's Hospital Reports*, Volume 70. Both reports are in substantial agreement and agree absolutely in certain essential features.

Gonorrhœa was common enough in the army, but gonorrhœal ophthalmia was a rare disease. I only saw five cases of gonorrhœal ophthalmia during the period in which I acted, and of these two infections were not contracted in Egypt. During the remainder of the war only eight cases appeared, making a total of thirteen, which means that the records show there were only eleven cases contracted during the war amongst hundreds of thousands of British soldiers. The relevancy of this statement to trachoma will become obvious later. In the meantime I put the question: "How was it that so few eyes were infected?"

During my term of service as Consulting Oculist I saw seventeen cases of trachoma and nearly all these cases came from Australia. During Colonel Eason's term of office there were three hundred and forty-two cases, of which only sixty-eight were reported as recent and seventy-two were unspecified as to whether they were recent or old.

Ophthalmia was very common and unlike gonococcal ophthalmia occurred at any time of the year, whereas gonococcal ophthalmia occurs definitely in the hot months. The annual percentage incidence of trachoma among the troops was 0·05. It is estimated that the Egyptian population suffers from, or has suffered from, trachoma to the extent of 80%, and 20% of the cases are infectious. Here, then, there were hundreds of thousands of British soldiers living in close contact with this infected population where there were Egyptian orderlies, mess room attendants *et cetera*, and yet there was practically no infection. Furthermore, amongst the Egyptian population and the Turkish prisoners gonococcal ophthalmia was common.

Colonel Eason had access to the original report of Baron Larrey who was Surgeon-in-Chief to Napoleon's army and found definitely that the French soldiers were not affected with trachoma, but with ophthalmia, including gonococcal ophthalmia. The popular belief that they brought trachoma back to Europe and so accounted for subsequent epidemics is not warranted by the facts.

It is for these reasons that we came to the conclusion that the usual fear of trachoma as a contagious disease amongst an Anglo-Saxon population is not warranted. It may be that the abolition of the roller towel may have played a part.

The facts relating to leprosy raises a similar problem. Last year I had the opportunity of visiting the Kalihi Receiving Leprosy Station at Honolulu and there witnessed a demonstration by the able medical officer in charge. No precautions against infection are taken by the staff beyond ordinary cleanliness. Many of the patients are allowed out on probation and the medical officer informed us that he did not know how leprosy was communicated. A few actual inoculations of the active bacilli into human beings have failed to produce the disease.

I ask those interested to look up the references I have given and then to read the questions put in the comment by Dr. Weiss as to whether there is not something more in the production of trachoma than simple inoculation. I am afraid the question cannot be answered definitely at present. The experiences in Egypt, however, show that if it is contagious in the ordinary sense without some predisposing feature, the risk of contagion is very slight and the political action taken with regard to immigrants is apt to be overdone.

Yours, etc.,

JAMES W. BARRETT.

105, Collins Street,
Melbourne.
November 24, 1930.

CHRISTIAN SCIENCE.

SIR: Your issue of October 18 contains a review of the book "Our New Religion," by Rt. Hon. H. A. L. Fisher. This book was eagerly awaited, as people felt Mr. Fisher would present a fair-minded picture of Christian Science. Unfortunately, the author did not rise to the occasion and his book has been generally condemned because of his failure to handle his subject impartially.

I will not encroach on your space to refute the points brought forward in your remarks. Readers of your journal are practical men and will appreciate the following impartial tributes to Christian Science.

Dr. Drummond Shiels (Edinburgh), a Member of the House of Commons, in a debate on "Unqualified Medical Practice," said: "Some of the most remarkable cases I know of, wonderful cures, have been in connexion with Christian Science, which I have seen myself and known."

Dr. Charles Hunter, of Winnipeg, Associate Professor of Clinical Medicine in the University of Manitoba, said: "Christian Science has helped many persons suffering from diseases which to the medical practitioner have defied diagnosis . . . Christian Science, furthermore, has brought relief to individuals who were victims to some organic disorder."

The Bishop of Kensington, England: "Why do we not heal the sick in Christ's name as did the early Church? It is to find an answer to that question that I ventured to suggest this conference today and in my invitation I draw your attention to the challenge which the action of that body of Christians called Christian Scientists make. It is to me indisputable that they do heal the sick both in mind and body. That notable miracles have been wrought by them we cannot deny. It is idle to dismiss the evidence in an offhand spirit of incredulity, still less to be 'offended' because the work of healing is being done in Christ's name by those who follow not with us. We must, rather, thankfully hail the guidance which such experience supplies as a means of recovering that which has either been neglected or overlaid by us."

A new biography of Mrs. Eddy will be on sale shortly. It is written by Dr. L. P. Powell, Rector of St. Margaret's Church in New York. Dr. Powell's work is entitled, "Mary Baker Eddy: A Life-Size Portrait."

Yours, etc.,

GEO. W. MARTIN,
Christian Science Committee on Publication for Victoria.

November 12, 1930.

[Readers are advised: (i) To read Mr. Fisher's book, (ii) to read our review of it, (iii) to read Mr. Martin's letter carefully, (iv) to draw their own conclusions.—EDITOR.]

ABDOMINAL ADHESIONS.

SIR: Reading Dr. Skipton Stacy's paper on abdominal adhesions in the November 22 issue of this journal has prompted me to forward these few lines. Mr. X, about five years ago, had symptoms of duodenal ulcer and much abdominal pain. Nothing seemed to help him, so operation was advised. Laparotomy revealed adhesions round the duodenal area and a duodenal erosion. Adhesions were broken down and he slowly convalesced, but never got much better. Five dead teeth which had been pronounced as free from infection as far as the film showed, were removed. He then rapidly got well. A year ago he developed a recurrence and much occult blood in fæces. The lower teeth, although showing no visible sign of pyorrhœa, were cultured and a hæmolytic streptococcus was procured. When this was tested against his own blood, greatly reduced resistance to that organism was revealed, so all teeth were extracted. From that time all abdominal symptoms have cleared up and he is better than he has been for years. The cause of abdominal adhesions is in the majority of cases not due to operative interference, but to a continuation of the arrival of organisms to the locality from some focal infection. For instance, in most cases in which appendices and gall bladders are removed, the focus which caused them, is left to pour its organisms daily into the blood stream, and as they have a selective affinity for that particular area, they still continue to sow the peritoneum in the locality.

Only a few weeks back a young man was sent to me from up country with a history of pain in the region of the appendix after operation for one year, which totally prevented his working. The removal of his tonsils and some diathermy treatment were all that was necessary to cure his troubles.

It is only actively forming adhesions which are painful, and they really represent mild local peritonitis. Once infection is abolished, adhesions, unless very dense, tend to absorb and, if present, give no trouble unless subjected to undue strain, such as lifting heavy weights *et cetera*. Diathermy is the most effective agent we have at assisting their absorption.

Yours, etc.,

SYDNEY PERN.

12, Collins Street,
Melbourne.
November 24, 1930.

Proceedings of the Australian Medical Boards.

VICTORIA.

THE undermentioned have been registered under the provisions of Part I of the *Medical Act*, 1928, as duly qualified medical practitioners:

Benham, Anthea Allison, M.B., B.S., 1930 (Univ. Melbourne), 25, Kenneally Street, Surrey Hills, E.10.

de Crespigny, Richard Geoffrey Champion, M.B., B.S., 1930 (Univ. Melbourne), 132, Strangways Terrace, North Adelaide, South Australia.

Forsyth, Gordon, M.B., Ch.M., 1922 (Univ. Sydney), Horsham.

Palfreyman, Colin Russell, M.B., B.S., 1930 (Univ. Melbourne), 5, Bona Vista Road, New Town, Tasmania.

Rex, Kenneth Edward, M.B., B.S., 1930 (Univ. Melbourne), 52, Clowes Street, South Yarra, S.E.1.

Sternfeld, Moses, M.R.C.S. (England), L.R.C.P. (London), 1929, 113, Chapel Street, East St. Kilda, S.2.

Books Received.

KNOW YOUR OWN WEATHER, POPULAR STUDIES IN AUSTRALIAN METEOROLOGY, by D. J. Mares, F.R.M.S.; 1930. Australia: Angus and Robertson. Demy 8vo., pp. 138, with illustrations.

BACTERIOLOGICAL TECHNIQUE, A LABORATORY GUIDE FOR MEDICAL, DENTAL AND TECHNICAL STUDENTS, by J. W. H. Eyre, M.D., M.S., F.R.S.; Third Edition; 1930. London: Baillière, Tindall and Cox. Demy 8vo., pp. 631, with illustrations. Price: 21s. net.

HANDBOOK OF ANATOMY, BEING A COMPLETE COMPEND OF ANATOMY, by James K. Young, M.D., F.A.C.S., revised by George W. Miller, M.D., F.A.C.S.; Seventh Revised Edition; 1930. Philadelphia: F. A. Davis Company. Demy 8vo., pp. 472, with 154 engravings, some in colours.

PHYSICAL DIAGNOSIS, by Richard C. Cabot, M.D.; Tenth Edition, Revised and Enlarged; 1930. London: Baillière, Tindall and Cox. Royal 8vo., pp. 550, with six plates and 279 figures in the text. Price: 25s. net.

A SYSTEM OF BACTERIOLOGY IN RELATION TO MEDICINE (Privy Council, Medical Research Council); Volume VII, 1930. London: His Majesty's Stationery Office. Crown 4to., pp. 510.

A TEXT-BOOK OF THE SURGICAL DYSPEPSIAS, by A. J. Walton, M.S., M.B., B.Sc., F.R.C.S.; Second Edition; 1930. London: Edward Arnold and Company. Royal 8vo., pp. 728, with illustrations. Price: 42s. net.

Diary for the Month.

DEC. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
DEC. 11.—New South Wales Branch, B.M.A.: Branch.
DEC. 11.—Victorian Branch, B.M.A.: Council.
DEC. 12.—Queensland Branch, B.M.A.: Branch (Annual).
DEC. 16.—New South Wales Branch, B.M.A.: Medical Politics Committee.
DEC. 19.—Queensland Branch, B.M.A.: Council.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes*, sought, etc., see "Advertiser," page xiv.

CHILDREN'S HOSPITAL, INCORPORATED, PERTH, WESTERN AUSTRALIA: Junior Resident Medical Officers.

DEPARTMENT OF INSPECTOR-GENERAL OF HOSPITALS, ADELAIDE, SOUTH AUSTRALIA: Resident Medical Officer.

THE UNIVERSITY OF MELBOURNE, MELBOURNE, VICTORIA: Demonstrator in Anatomy, Demonstrator in Histology, Stewart Lectureship in Anatomy.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company, Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members desiring to accept appointment in ANY COUNTRY HOSPITAL, are advised to submit a copy of their agreement to the Council before signing, in their own interests. Brisbane Associated Friendly Societies' Medical Institute. Mount Isa Hospital. Mount Isa Mines.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Lodge Appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.